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June 3, 1991

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**JUN 12 1991**

**PRC ENVIRONMENTAL  
MANAGEMENT, INC.**

BY OVERNIGHT COURIER

Mr. Chris Stubbs  
South Coast Groundwater  
Section (H-6-4)  
United States Environmental  
Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, California 94105

**Attention:        Contains Material  
                     Subject to Confidentiality Claim**

Re:    Clyde Lee, Inc.'s Response  
      to March 15, 1991 EPA General Notice Letter

Dear Mr. Stubbs:

This letter and its enclosures responds to your March 14, 1991 "Notice of Potential Liability" under Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") 42 U.S.C. Section 9601 et seq., as amended. This firm represents Clyde Lee, Inc. ("Clyde Lee") dba "Sprayco, Inc." at 12600 S. Saticoy Street (the "Site"). Under an agreement between your counsel, Marsha Preston, Esq., and Baker & McKenzie, legal representatives for Clyde Lee in this matter, the deadline for responding to this request for information was extended until and including June 3, 1991.

This response is based upon information and documents presently available to and located by Clyde Lee and its counsel; however, this response is subject to an ongoing investigation. Consequently, the response is without prejudice to Clyde Lee's right to produce additional information or documents should they be located or become available in the future. All information responsive to your requests has been included.

Clyde Lee generally objects to each and every one of the Environmental Protection Agency ("EPA")'s requests insofar as

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BAKER & MCKENZIE

Mr. Chris Stubbs  
June 3, 1991  
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they seek the production of any information, communications or documents protected by the attorney-client privilege or the work product privilege. Each of the responses that follows is made expressly subject to and without waiving these objections, which are hereby incorporated into each of the responses. Moreover, no incidental or implied admissions are intended by the response, and the fact that Clyde Lee has objected to any request should not be taken to mean that information or documents exist which has not been produced.

Unless otherwise stated, the person answering each of these questions and the person consulted in preparation of the answer on behalf of Clyde Lee is Mr. Neville Isaacson, President. Mr. Isaacson can be contacted through Baker & McKenzie.

Unless otherwise stated, true and accurate copies of all documents consulted, examined or referred to in the preparation of the answer are enclosed. Unless otherwise stated, Clyde Lee is not aware that other persons may be able to provide a more detailed or complete response, or additional responsive documents, to any question contained herein.

Clyde Lee asserts a claim of confidentiality under CERCLA Sections 104(e)(7)(E) and (F), 42 U.S.C. §§ 9604(e)(7)(E) and (F), and 40 C.F.R. § 2.203(b) over all of the following information:

(a) all liability insurance policies held by Clyde Lee from the time it began operations at, or assumed ownership of (whichever occurred earlier), the Site until the present (enclosed as Exhibit K);

(b) income tax returns sent to the Federal Internal Revenue Service in the last five years (enclosed as Exhibit L);

(c) financial statements for the past five fiscal years, including, but not limited to, those filed with the federal and state Internal Revenue Service and Securities and Exchange Commission (enclosed as Exhibit L); and

(d) any and all information and documents setting forth or relating to Clyde Lee's assets or liabilities, as well as the identity of any and all information regarding the persons who are responsible for such assets and liabilities (enclosed as Exhibit L).

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To assist EPA in keeping such information confidential, we have placed these particular Exhibits in a separate volume and attached a cover sheet stating "Company Confidential" to the beginning of each Exhibit over which a confidentiality claim is asserted.

Clyde Lee submits that any release of contamination on the Site has not caused the EPA to incur response costs and that Clyde Lee, therefore, is not a Potentially Responsible Party ("PRP"). In an effort to cooperate with the EPA and to avoid costly and protracted litigation on these difficult technical issues, Clyde Lee is willing to explore the possibility of a de minimis settlement pursuant to Section 122 of CERCLA, 42 U.S.C. § 9622(g). Under Section 122(g)(1), a PRP who is either a "de minimis waste contributor" or a "de minimis land owner" is entitled to negotiate an expedited final settlement. CERCLA, 42 U.S.C. § 9622(g)(1). According to Agency guidelines, a de minimis waste contributor is a PRP who, in the judgment of the Agency, contributed hazardous substances in an amount and of such toxic or other hazardous effects as to be minimal in comparison to other hazardous substances at the facility. 52 Fed. Reg. 24333 (June 30, 1987). Even assuming for settlement purposes only that Sprayco has in any way contributed to the groundwater contamination, the facts indicate that Clyde Lee's circumstances would justify de minimis status.

Please contact Malissa McKeith or me if you require any additional information to assist you in such evaluations. Sprayco is anxious to resolve these matters at the earliest opportunity.

Very truly yours,

  
\_\_\_\_\_  
Todd O. Maiden

TOM:wpc  
Enclosures

RESPONSE OF CLYDE LEE, INC. TO MARCH 14, 1991  
ENVIRONMENTAL PROTECTION AGENCY  
CERCLA § 104 GENERAL NOTICE LETTER

THIS RESPONSE IS SUBJECT TO THE LIMITATIONS  
SET FORTH IN THE ATTACHED COVER  
LETTER OF JUNE 3, 1991.

1. Question: List the EPA RCRA Identification Numbers of the Respondent, if any.

Response: The Site has been issued EPA I.D. #CAD030383624.

2. Question: Describe the nature and dates of present and past operations at the facility.

Response: Clyde Lee, Inc. ("Clyde Lee") has operated on the Site from 1982 to the present and does business as "Sprayco, Inc." Prior operators include Sprayco, Incorporated, an entity distinct from "Sprayco, Inc." (1976-1982) and Jamespray (approximately 1969-1976). All three entities were/are engaged in the spray coating of various metal parts. Clyde Lee is not aware of Site operators prior to 1969.

3. Question: Identify the current owner(s) of the facility. State the dates during which the current owner owned, operated, or leased any portion of the facility, and provide copies of all documents evidencing or relating to such ownership, operation, or lease, including but not limited to, purchase and sale agreements, deeds, and leases.

Response: The Site has been owned by Mark and Sylvia Ziv from at least 1969 to the present. Mr. and Mrs. Ziv can be contacted at [REDACTED] FX-6 Personal Privacy

[REDACTED] FX-6 Personal Privacy Clyde Lee is unaware of the date Mr. and Mrs. Ziv purchased the Site or who owned the Site prior to the Zivs. Enclosed as Exhibits A, B and C are leases dated March 30, 1979 and May 30, 1984 and one lease option dated September, 1981, respectively.

4. Question: Identify all prior owners of the facility. For each prior owner further identify:

- a. The dates of ownership;
- b. All evidence that hazardous materials were released or threatened to be released at the facility during the period that they owned the facility.

Response:

- a. See response to Question 2, above.

- b. When Clyde Lee came onto the Property in 1982, it found no evidence that hazardous materials were released or threatened to be released at the Site.
5. Question: Identify the prior operators and lessees of the facility. For each such operator or lessee, further identify:
- a. The dates of their operations at or lease of the facility;
  - b. The nature of their operations at the facility;
  - c. All evidence that hazardous materials were released or threatened to be released at the facility during the period in which they were operating at the facility.

Response:

- a & b. Operator and Lessee from 1976 to 1982:  
Sprayco, Incorporated (Spray painting)  
President: Leonard Moore (Moore Industries)  
Last known address: 16650 Schoenborn Street,  
Sepulveda, California 91343  
  
Operator and Lessee from 1969 to 1976:  
Jamespray (Spray painting)  
Owners: Gary and Bill James  
Gary James: Owner of Colortec Industrial Finishing  
(Spray painting)  
Last known address: 11231 Ilex Avenue, Pacoima,  
California 91331.  
  
Bill James: Owner of Quality Finishing and Quality  
Processing  
Last known address: 12109 Unit D6 and 12111 1/2  
Unit C6  
Brandford Street, Sun Valley, California 91352
  - c. Enclosed as Exhibit D are photographs of the Site and spray painting operations at the Site prior to 1980 which indicate that the prior lessees operated under a lesser standard of care than the current operator, Clyde Lee. Subsequent to 1982, former employees of prior operators have also stated that excess paints and solvents were disposed of via backyard dumping.
6. Question: Provide a scaled map of the facility which includes the locations of significant features. Describe the physical characteristics of the facility, including but not limited to, the following:
- a. Surface structures (e.g., building, tanks, etc.);

- b. Subsurface structures (e.g., underground tanks, sumps, pits, clarifiers, etc.);
- c. Ground water wells and dry wells, including drilling logs;
- d. Past and present storm water drainage system, sanitary sewer system, including septic tank(s) and subsurface disposal field(s);
- e. Any and all additions, demolitions, or changes of any kind to physical structures on, under, or about the facility, or to the property itself (e.g., excavation work) and state the dates on which such changes occurred.

Response: A drawing of the facility is enclosed as Exhibit E.

- a. The Site contains a single story masonry block structure measuring 75 feet wide by 150 feet long. The front of the building is comprised of offices. Spray coating is performed in the rear portion of the structure on a concrete floor on grade. In a separate room, there is a vapor degreaser used for cleaning metal parts. There is also an area where silk screening takes place. This operation uses extremely small quantities of paint. There is one above ground storage tank (200 gallons) in the degreaser area. Behind the building is an asphalted area where raw and waste materials are stored.
- b. Clyde Lee is not aware of any subsurface structures (e.g., underground tanks, sumps, pits, clarifiers, etc.) having ever existed on the Site.
- c. Clyde Lee is not aware of any ground water wells having ever existed on the Site.
- d. There has never been a subsurface storm water drainage system on the Site. All surface run off drains into Saticoy Street.

The Site utilizes underground plumbing connected to the regional sanitary waste system. Clyde Lee is not aware of any hazardous substances ever being disposed of into the sanitary sewage system. Clyde Lee is not aware of any septic tanks or subsurface disposal fields on the Site.

- e. Clyde Lee is not aware of any additions, or demolitions, etc., at the Site.
7. Question: Provide all existing technical or analytical information about the facility, including but not limited to, data and documents related to soil, water (ground and

surface), geology, hydrogeology, or air quality on and about the facility.

Response: An August 27, 1990 soil analysis from Golden State Analytical Services is enclosed at Exhibit F. The excavation from which this soil was taken was actually performed on the property adjoining the Clyde Lee Site. (See answer to Question 15.) Clyde Lee thus contends that these findings do not analyze soils at the Site. On January 14, 1991, the San Jose Creek Water Quality Laboratory analyzed a five-month-old soil sample from the same location. The results of the delayed analysis is attached as Exhibit G.

8. Are you or your consultants planning to perform any investigations of the soil, water (ground or surface), geology, hydrogeology, or air quality on or about the facility? If so, identify:
- a. The nature and scope of these investigations;
  - b. The contractors or other persons that will undertake these investigations;
  - c. The purpose of the investigations;
  - d. The dates when such investigations will take place and be completed;
  - e. Where on the facility such investigations will take place.

Response:

- a. Per the request of the California Regional Water Quality Control Board, Los Angeles Region ("RWQCB"), Clyde Lee will make three 10 foot soil borings and analyze selected samples using EPA test methods 8010/8020 and 418.1.
- b. Clyde Lee is currently accepting bids from several environmental consulting firms to perform the work described in response 8a.
- c. The investigation is being conducted at the request of the RWQCB.
- d. The dates for performing this work will depend upon the availability of the consultant performing the work.
- e. The soil borings will be conducted behind the building on site by the solvent storage area, the waste storage area and the paint hooks area, respectively. Boring locations will be approved by the Regional Water Board.



9. Did you acquire the facility after the disposal or placement of the hazardous substances on, in or at the facility? Describe all of the facts on which you base the answer to this Question.

Response: Clyde Lee objects to the form of this question insofar as it assumes a hazardous release has already occurred. Without waiving its right to object, Clyde Lee answers as follows: Clyde Lee, Inc. leased the facility after many years of spray painting and related operations had been performed by at least two other companies which had operated on the Site. Since at least 1969, the previous operators had used mainly solvent based paints and many chemicals and reducers (paint thinners). At least 99% of Clyde Lee's coatings operations utilize water borne paint and powder coatings. As can be seen from the enclosed photographs attached as Exhibit D, (dating back approximately 15 years), it is clear that the prior operators did not operate according to the same standards with which Clyde Lee currently operates, even to the extent of spilling paints and solvents as well as disposing of the excess paints and waste solvents in the back yard. These facts have only recently been discovered and an investigation is now ongoing to determine further details regarding earlier operators at the Site. See the answer to Question 15 for an explanation as to the August 1990 test results. Clyde Lee contends that the tested soil was not excavated from the Site.

10. At the time you acquired the facility, did you know or have reason to know that any hazardous substance was disposed of on, in, or at the facility? Describe all investigations of the facility that you took prior to acquiring the facility, and all of the facts on which you base the answer to this Question.

Response: Clyde Lee objects to the form of this question insofar as it assumes a hazardous release has already occurred. Without waiving its right to object, Clyde Lee answers as follows: at the time Clyde Lee, Inc. leased this facility, the previous operator, Sprayco, Incorporated, had almost no work and was forced to close its doors. Clyde Lee hired both a spray painting expert and an attorney with experience in these operations to inspect the property prior to leasing it. These consultants advised that the property looked fine. No soil or groundwater contamination was visible or suspected at the time.

11. Did you ever transport to the facility or use, purchase, generate, store, treat, dispose, or otherwise handle at the facility any materials, either hazardous or non-hazardous? If the answer to this question is anything but an unqualified "no", identify:

- a. In general terms, the nature and quantity of the non-hazardous materials so transported, used, purchased, generated, stored, treated, disposed, or otherwise handled;
- b. The common chemical name, specific chemical name, Chemical Abstract Service (CAS) number, chemical composition, characteristics, and physical state (e.g., solid, liquid, gas) of each hazardous material so transported, used, purchased, generated, stored, treated, disposed, or otherwise handled;
- c. The persons who supplied you with each such hazardous material or how each such hazardous material was generated by you;
- d. How each such hazardous material was transported, used, purchased, stored, treated, disposed, or otherwise handled by you;
- e. When each such hazardous material was transported, used, purchased, generated, stored, treated, disposed, or otherwise handled by you;
- f. Where each such hazardous material was used, purchased, generated, stored, treated, disposed, or otherwise handled by you, describing the location(s) and providing a map or diagram of such location(s). Location information should include, but is not limited to, information pertaining to tanks, ponds, treatment facilities, and other units which were historically used to generate, store, treat or dispose of hazardous materials, but which may no longer exist;
- g. The persons who transported and/or disposed of each such hazardous material. If disposal off of the facility occurred, provide a detailed description, including copies of manifests, and identify the location where the hazardous material was transported;
- h. The annual quantity of each such hazardous material used, purchased, generated, stored, treated, transported, disposed, or otherwise handled by you, reported in gallons for liquids and pounds for solids.

Response:

- a. The nature of materials purchased and used on site are better described in the Material Safety Data Sheets attached as Exhibit H. Quantities of substances purchased and used are indicated in part "h" of this response.

b.

<u>Common</u> <u>Chemical Name</u>	<u>Specific</u> <u>Chemical Name</u>	<u>Cas #</u>	<u>Physical</u> <u>State</u>
1.1.1. Trichloroethane			liquid
Rho Solve			liquid
M.E.K.	Methal Ethyl Keytone		liquid
Acetone			Liquid
Butyl Cellosolve			Liquid
Polyurethane Reducer			Liquid

See also, Exhibit H (MSDS).

- c. These materials were purchased from Rho Chem, 425 Isis Avenue, Inglewood, California 90301, a chemical supplier. The polyurethane, reducer and most paints are purchased from Cardinal Paints, 1329 Potrero Avenue, South El Monte, California 91733. Some of the paints are purchased from Armitage, 1329 Potrero Avenue, South El Monte, California 91733.
- d. These materials were transported by the manufacturers and were purchased in single gallons, 5 gallon pails or 55 gallon drums (with the exception of the trichloroethane which was delivered in bulk into an above ground 200 gallon tank). Flammable materials are stored outside the building in a specially designated area and non-flammable materials inside, in their respective containers. Waste generated is either removed by an authorized waste hauler or recycled on site. A recycling unit for solvent distills fresh solvent from waste. The sludge drops to the bottom and is stored with other paint waste before being transported offsite by a registered hazardous waste transporter.
- e. Hazardous material was never transported by our vehicles. All materials are purchased on an as-needed basis, stored outside in a particular area and disposed of via a licensed hauler.
- f. Refer to diagram, attached as Exhibit I.
- #1 Paint locker
  - #2 Trichloroethane storage (above ground tank)
  - #3 Waste storage
  - #4 New storage
  - #5 Recycling unit

1,1,1, Trichloroethane is used to clean parts prior to painting. Acetone and butyl cellosolve are used to clean painted parts for silkscreening. Polyurethane reducer is used to thin down polyurethane paint of which our usage is less than 1%.

g. Various licensed waste haulers were used to dispose of the waste as can be seen from manifests attached as Exhibit J.

h. Paint usage	±3,000 gal./year
1.1.1. Trichloroethane	± 800 gal./year
Rho Solve usage	± 500 gal./year
M.E.K.	± 300 gal./year
Acetone usage	± 200 gal./year
Butyl cellosolve usage	± 100 gal./year
Polyurethane reducer	± 25 gal./year

12. Identify all leaks, spills, releases or threats of releases of any kind into the environment of any hazardous materials that have occurred or may occur at or from the facility. In addition, identify:

- a. When such releases occurred or may occur;
- b. How the releases occurred or may occur;
- c. What hazardous materials were released or may be released;
- d. What amount of each such hazardous material was so released;
- e. Where such releases occurred or may occur, describing the locations(s) and providing a map or diagram of such locations(s);
- f. Any and all activities undertaken in response to each such release or threatened release;
- g. Any and all investigations of the circumstances, nature, extent, or location of each such release or threatened release, including the results of any soil, water (ground and surface), or air testing that was undertaken;
- h. Whether any report(s) of any such release(s) was (were) made to any public agency, and the content of that (those) reports(s);
- i. All persons with information, relating to subparts a. through h. of this Question.

Response: Except for the information found in consultants' reports at Exhibits F and G, Clyde Lee is not aware of any spills that have occurred since it began operating on the Site in 1982. It is possible, of course, that even in the case of carefully-run operation incidental drips will occur. However, company policy stresses avoiding even minor drips for a variety of reasons including OSHA requirements, cost of

product, etc. If any drips do occur, it is the policy of Clyde Lee to wipe up drips as they occur.

13. If any releases or threatened release identified in response to Question 12, above, occurred into any subsurface disposal system, floor drain, sump, or dry well inside or under any buildings located on the facility, further identify:
- a. Precisely where the disposal system, floor drain, sump, or dry well is and was located;
  - b. When the disposal system, floor drain, sump, or dry well was installed;
  - c. Whether the disposal system, floor drain, sump, or dry well was connected to pipes;
  - d. Where such pipes are or were located, describing the location(s) and providing a map or diagram of such location(s);
  - e. When such pipes were installed;
  - f. How and when such pipes were replaced, repaired, or otherwise changed.

Response: A sanitary sewer system exists at the Site. It is Company policy, however, never to dispose of products down sinks or toilets.

14. Is the facility currently connected to a sewer line? If so, identify the sewage system, date of connection, and type of wastes discharged. If you are or at some time operated the facility without a sewer line connection, identify the method of waste disposal that you use or did use. Specifically, have you or are you using leach field(s), septic tank(s), or any other method of disposal at the facility. Provide copies of any sewer permits, including but not limited to industrial waste permits.

Response: As far as is known, the facility has always been connected to the L.A. sewer system. The only wastes discharged while Clyde Lee has been on the property are normal bathroom wastes. No septic tanks are known to be on Site.

15. Describe any acts or omissions of any persons, other than your employees, agents, or those persons with whom you had a contractual relationship, that may have caused the release or threat of release of hazardous substances at the facility and damages relating therefrom and identify such persons. In addition:
- a. Describe all precautions that you took against foreseeable acts or omissions of any such third parties,

and the consequence that could foreseeably result from such acts or omissions;

- b. Describe the care you exercised with respect to the hazardous substances found at the facility.

Response: Precautions regularly taken at the Clyde Lee Site include communication to employees, storage of chemicals within berms and the use of correct manifest procedures in the transporting of all hazardous wastes. Precautions against non-employee dumping include a fence and wall around the property and a gate which is locked after work hours.

The August 1990 soil report prepared by Golden State Analytical Services, Inc. (Exhibit F) reported TCA, chromium and petroleum hydrocarbon levels to be above normal limits. These tests were done in conjunction with an excavation ordered by the Los Angeles County Department of Health Services. As chromium and petroleum hydrocarbons are substances that are not used at the Site, Clyde Lee investigated the excavation and found that the bulk of the excavated soil had been mistakenly dug up from the adjoining property, where a stone and marble company currently operates. Past operators on the adjoining property included Satellite Truck Bodies and Cal-Wal Gypsum. Satellite Truck performed painting operations and welding and used various paint strippers and solvents. Clyde Lee personnel have observed Satellite employees spray painting in the open, without spray booths. These operations were also witnessed by an inspector from the South Coast Air Quality Management District. Clyde Lee believes Satellite was cited for this conduct.

Clyde Lee contends that the August 1990 analytical results do not accurately reflect the level of soil contamination, if any, on the Site. However, in order to determine if contamination exists on the Site and, if so, to what lateral and vertical extents, Clyde Lee is cooperating with the RWQCB to begin soil investigations on the Site. (See answer to Question 8.)

Additionally, a non-contractual third party which once occupied the property to the west of the Site may have caused contamination on the Site. At the time, the neighboring property was a builder's junkyard. During the early to mid 1980's, drums of chemicals and oils were stored in the junkyard directly on the dirt. Equipment was painted at the junkyard as well. Since the mid-1980's, new operators on the property have erected a building on it.

16. Identify all liability insurance policies held by Respondent from the time Respondent began operations at, assumed ownership of, or began leasing the facility (whichever

occurred earlier) until the present. In identifying such policies, state:

- a. The name and address of each insurer and of the insured;
- b. The amount of coverage under each policy;
- c. The commencement and expiration dates for each policy;

In addition, submit a complete copy of each policy.

Response: This response and supporting documents are produced under seal at Exhibit K. A claim of confidentiality is asserted for the material under CERCLA Sections 104(e)(7)(E) and (F), 42 U.S.C. §§ 9604(e)(7)(E) and (F), and 40 C.F.R. § 2.203(b).

17. Provide copies of all income tax returns including all schedules sent by you to the federal Internal Revenue Service in the last five years.

Response: This response and supporting documents are produced under seal at Exhibit L. A claim of confidentiality is asserted for the material under CERCLA Sections 104(e)(7)(E) and (F), 42 U.S.C. §§ 9604(e)(7)(E) and (F), and 40 C.F.R. § 2.203(b).

18. Provide all financial statements for the past five fiscal years, including but not limited to those filed with the federal Internal Revenue Service, the Franchise Tax Board, any other state taxing authorities, and the Securities and Exchange Commission.

Response: This response and supporting documents are produced under seal at Exhibit L. A claim of confidentiality is asserted for the material under CERCLA Sections 104(e)(7)(E) and (F), 42 U.S.C. §§ 9604(e)(7)(E) and (F), and 40 C.F.R. § 2.203(b).

19. Identify all of Respondent's current assets and liabilities.

Response: This response and supporting documents are produced under seal at Exhibit L. A claim of confidentiality is asserted for the material under CERCLA Sections 104(e)(7)(E) and (F), 42 U.S.C. §§ 9604(e)(7)(E) and (F), and 40 C.F.R. § 2.203(b).

20. Identify all subsidiaries and parent corporations of Respondent.

Response: None exist.

21. Provide a copy of the most current Articles of Incorporation and By-laws of Respondent.

Response: A copy of the most current Articles is enclosed at Exhibit M. By-laws cannot be located at present. When they are found, they will be sent to supplement this response.

22. Identify the managers and majority shareholders or partners of Respondent and the nature of their management duties or amount of shares held, respectively.

Neville Isaacson, President and Treasurer  
Juan Rodarthe, Vice President and Paint Supervisor.  
Marilyn Isaacson, Secretary

Neville Isaacson, [REDACTED] shareholder.



EXHIBIT A

Rec'd  
6/4/91  
CH

## AMERICAN INDUSTRIAL REAL ESTATE ASSOCIATION



get insurance policy  
"Successor Liability"

NB

1. Parties. This Lease, dated, for reference purposes only, MARCH 30, 1979, is made by and between MARK ZIV (herein called "Lessor") and SPRAYCO INC. (herein called "Lessee").

2. Premises. Lessor hereby leases to Lessee and Lessee leases from Lessor for the term, at the rental, and upon all of the conditions set forth herein, that certain real property situated in the County of Los Angeles State of California, commonly known as 12600 Saticoy St. North Hollywood, California. and described as Portion of Lot 112, Tract No. 1212, in the City of Los Angeles.

Said real property including the land and all improvements thereon, is herein called "the Premises".

## 3. Term.

3.1 Term. The term of this Lease shall be for Five (5) Years. commencing on September 1st. 1979 and ending on August 30, 1984 unless sooner terminated pursuant to any provision hereof.

3.2 Delay in Commencement. Notwithstanding said commencement date, if for any reason Lessor cannot deliver possession of the Premises to Lessee on said date, Lessor shall not be subject to any liability therefor, nor shall such failure affect the validity of this Lease or the obligations of Lessee under or extend the term hereof, but in such case Lessee shall not be obligated to pay rent until possession of the Premises is tendered to Lessee; provided, however, that if Lessor shall not have delivered possession of the Premises within sixty (60) days from said commencement date, Lessee may, at Lessee's option, by notice in writing to Lessor within ten (10) days thereafter, cancel this Lease, in which event the parties shall be discharged from all obligations hereunder. If Lessee occupies the Premises prior to said commencement date, such occupancy shall be subject to all provisions hereof, such occupancy shall not advance the termination date, and Lessee shall pay rent for such period at the initial monthly rates set forth below.

4. Rent. Lessee shall pay to Lessor as rent for the Premises Two Hundred Fifty Two Thousand dollars (\$ 252,000.00 ), payable in equal monthly installments of \$ 4,200.00 in advance, on the first day of each month of the term hereof. Lessee shall pay Lessor 4,200.00 as rent for The Month of September 1979 On or before September 1st, 1979.

Rent for any period during the term hereof which is for less than one month shall be a pro rata portion of the monthly installment. Rent shall be payable in lawful money of the United States to Lessor at the address stated herein or to such other persons or at such other places as Lessor may designate in writing.

5. Security Deposit. Lessee shall deposit with Lessor upon execution hereof \$ 8,400.00 as security for Lessee's faithful performance of Lessee's obligations hereunder. If Lessee fails to pay rent or other charges due hereunder, or otherwise defaults with respect to any provision of this Lease, Lessor may use, apply or retain all or any portion of said deposit for the payment of any rent or other charge in default or for the payment of any other sum to which Lessor may become obligated by reason of Lessee's default, or to compensate Lessor for any loss or damage which Lessor may suffer thereby. If Lessor so uses or applies all or any portion of said deposit, Lessee shall within ten (10) days after written demand therefor deposit cash with Lessor in an amount sufficient to restore said deposit to the full amount hereinabove stated and Lessee's failure to do so shall be a material breach of this Lease. Lessor shall not be required to keep said deposit separate from its general accounts. If Lessee performs all of Lessee's obligations hereunder, said deposit, or so much thereof as has not theretofore been applied by Lessor, shall be returned, without payment of interest or other increment for its use, to Lessee (or, at Lessor's option, to the last assignee, if any, of Lessee's interest hereunder) at the expiration of the term hereof, and after Lessee has vacated the Premises.

## 6. Use.

6.1 Use. The Premises shall be used and occupied only for Any Legally Permitted Use.

6.2 Compliance with Law. Lessee shall, at Lessee's expense, comply promptly with all applicable statutes, ordinances, rules, regulations, orders and requirements in effect during the term or any part of the term hereof regulating the use by Lessee of the Premises. Lessee shall not use or permit the use of the Premises in any manner that will tend to create waste or a nuisance or, if there shall be more than one tenant of the building containing the Premises, which shall tend to disturb such other tenants.

6.3 Condition of Premises. Lessee hereby accepts the Premises in their condition existing as of the date of the execution hereof, subject to all applicable zoning, municipal, county and state laws, ordinances and regulations governing and regulating the use of the Premises, and accepts this Lease with knowledge and to all matters disclosed thereby and by any exhibits attached hereto. Lessee acknowledges that neither Lessor nor Lessor's agent has made any representation or warranty as to the suitability of the Premises for the conduct of Lessee's business.

## 7. Maintenance, Repairs and Alterations.

7.1 Lessor's Obligations. Subject to the provisions of Article 9 and except for damage caused by any negligent or intentional act or omission of Lessee, Lessee's agents, employees, or invitees, Lessor, at Lessor's expense, shall keep in good order, condition and repair the foundations, exterior walls and the exterior roof of the Premises. Lessor shall not, however, be obligated to paint such exterior, nor shall Lessor be required to maintain the interior surface of exterior walls, windows, doors or plate glass. Lessor shall have no obligation to make repairs under this Paragraph 7.1 until a reasonable time after receipt of written notice of the need for such repairs. Lessee expressly waives the benefits of any statute now or hereafter in effect which would otherwise afford Lessee the right to make repairs at Lessor's expense or to terminate this Lease because of Lessor's failure to keep the Premises in good order, condition and repair.

## 7.2 Lessee's Obligations.

(a) Subject to the provisions of Paragraph 9 and Paragraph 7.1, Lessee, at Lessee's expense, shall keep in good order, condition and repair the Premises and every part thereof (regardless of whether the damaged portion of the Premises or the means of repairing the same are accessible to Lessee), including, without limiting the generality of the foregoing, all plumbing, heating, air conditioning, ventilating, electrical and lighting facilities and equipment within the Premises, fixtures, interior walls and interior surface of exterior walls, ceilings, windows, doors, plate glass, and skylights, located within the Premises and all sidewalks, landscaping, driveways, parking lots, fences and signs located in the areas which are adjacent to and included with the Premises.

(b) If Lessee fails to perform Lessee's obligations under this Paragraph 7.2, Lessor may at Lessor's option enter upon the Premises after 10 days' prior written notice to Lessee, and put the same in good order, condition and repair, and the cost thereof together with interest thereon at the rate of 10% per annum shall be due and payable as additional rent to Lessor together with Lessee's next rental installment.

(c) On the last day of the term hereof, or on any sooner termination, Lessee shall surrender the Premises to Lessor in the same condition as received, broom clean, ordinary wear and tear excepted. Lessee shall repair any damage to the Premises occasioned by the removal of its trade fixtures, furnishings and equipment pursuant to Paragraph 7.3(c), which repair shall include the patching and filling of holes and repair of structural damage.

## 7.3 Alterations and Additions.

(a) Lessee shall not, without Lessor's prior written consent, make any alterations, improvements, additions, or utility installations in, on or about the Premises, except for non-structural alterations not exceeding \$1,000 in cost. As used in this Paragraph 7.3, the term "utility installations" shall include bus ducting, power panels, fluorescent fixtures, space heaters, conduits and wiring. As a condition to giving such consent, Lessor may require that Lessee agree to remove any such alterations, improvements, additions or utility installations at the expiration of the term, and to restore the Premises to their prior condition. As a further condition to giving such consent, Lessor may require Lessee to provide Lessor, at Lessee's sole cost and expense, a lien and completion bond in an amount equal to one and one-half times the estimated cost of such improvements, to insure Lessor against any liability for "mechanics' and materialmen's liens" and to insure completion of the work.

option to renew for 3-5 year terms.

must have a sublet clause.

(b) Lessee shall pay, when due, all claims for labor or materials furnished or alleged to have been furnished to or for Lessee at or for use in the Premises, which claims are or may be secured by any mechanics' or materialmen's lien against the Premises or any interest therein. Lessee shall give Lessor not less than ten (10) days' notice prior to the commencement of any work in the Premises, and Lessor shall have the right to post notices of non-responsibility in or on the Premises as provided by law.

(c) Unless Lessor requires their removal, as set forth in Paragraph 7.3(a) all alterations, improvements, additions and utility installations (whether or not such utility installations constitute trade fixtures of Lessee), which may be made on the Premises, shall become the property of Lessor and remain upon and be surrendered with the Premises at the expiration of the term. Notwithstanding the provisions of this Paragraph 7.3(c), Lessee's machinery and equipment, other than that which is affixed to the Premises so that it cannot be removed without material damage to the Premises, shall remain the property of Lessee and may be removed by Lessee subject to the provisions of Paragraph 7.2(c).

## 8. Insurance; Indemnity.

**Liability Insurance.** Lessee shall, at Lessee's expense, obtain and keep in force during the term of this Lease a policy of comprehensive public liability insurance insuring Lessor and Lessee against any liability arising out of the ownership, use, occupancy or maintenance of the Premises and all areas appurtenant thereto. Such insurance shall be in an amount of not less than \$300,000 for injury to or death of one person in any one accident or occurrence and in an amount of not less than \$500,000 for injury to or death of more than one person in any one accident or occurrence. Such insurance shall further insure Lessor and Lessee against liability for property damage of at least \$50,000. The limits of said insurance shall not, however, limit the liability of Lessee hereunder. In the event that the Premises constitute a part of a larger property, said insurance shall have a Lessor's Protective Liability endorsement attached thereto. If Lessee shall fail to procure and maintain said insurance Lessor may, but shall not be required to, procure and maintain the same, but at the expense of Lessee.

**8.2 Property Insurance.** Lessor shall obtain and keep in force during the term of this Lease a policy or policies of insurance covering loss or damage to the Premises, in the amount of the full replacement value thereof, providing protection against all perils included within the classification of fire, extended coverage, vandalism, malicious mischief, special extended perils (all risk). Lessee shall pay during the term hereof, in addition to rent, the amount of any increase in premiums for the insurance required under this Paragraph 8.2 over and above such premiums paid by Lessor during the first full year of the term of this Lease in which Lessor shall have maintained the insurance required under this Paragraph 8.2, whether such premium increase shall be the result of the nature of Lessee's occupancy, any act or omission of Lessee, requirements of the holder of a mortgage or deed of trust covering the Premises, or increased valuation of the Premises. Lessee shall pay any such premium increases to Lessor within 30 days after receipt by Lessee of a copy of the premium statement or other satisfactory evidence of the amount due. If the insurance policies maintained hereunder cover other improvements in addition to the Premises, Lessor shall also deliver to Lessee a statement of the amount of such increase attributable to the Premises and showing in reasonable detail the manner in which such amount was computed. If the term of this Lease shall not expire concurrently with the expiration of the period covered by such insurance, Lessee's liability for premium increases shall be prorated on an annual basis.

**8.3 Insurance Policies.** Insurance required hereunder shall be in companies rated AAA or better in "Best's Insurance Guide". Lessee shall deliver to Lessor copies of policies of liability insurance required under Paragraph 8.1 or certificates evidencing the existence and amounts of such insurance with loss payable clauses satisfactory to Lessor. No such policy shall be cancellable or subject to reduction of coverage or other modification except after ten (10) days' prior written notice to Lessor. Lessee shall, within ten (10) days prior to the expiration of such policies, furnish Lessor with renewals or "binders" thereof, or Lessor may order such insurance and charge the cost thereof to Lessee, which amount shall be payable by Lessee upon demand. Lessee shall not do or permit to be done anything which shall invalidate the insurance policies referred to in Paragraph 8.2.

**8.4 Waiver of Subrogation.** Lessee and Lessor each hereby waives any and all rights of recovery against the other, or against the officers, employees, agents and representatives of the other, for loss of or damage to such waiving party or its property or the property of others under its control, where such loss or damage is insured against under any insurance policy in force at the time of such loss or damage. Lessee and Lessor shall, upon obtaining the policies of insurance required hereunder, give notice to the insurance carrier or carriers that the foregoing mutual waiver of subrogation is contained in this Lease.

**8.5 Indemnity.** Lessee shall indemnify and hold harmless Lessor from and against any and all claims arising from Lessee's use of the Premises, or from the conduct of Lessee's business or from any activity, work or things done, permitted or suffered by Lessee in or about the Premises or elsewhere and shall further indemnify and hold harmless Lessor from and against any and all claims arising from any breach or default in the performance of any obligation on Lessee's part to be performed under the terms of this Lease, or arising from any negligence of the Lessee, or any of Lessee's agents, contractors, or employees, and from and against all costs, attorney's fees, expenses and liabilities incurred in the defense of any such claim or any action or proceeding brought thereon; and in case any action or proceeding be brought against Lessor by reason of any such claim, Lessee upon notice from Lessor shall defend the same at Lessee's expense by counsel satisfactory to Lessor. Lessee, as a material part of the consideration to Lessor, hereby assumes all risk of damage to property or injury to persons, in, upon or about the Premises arising from any cause and Lessee hereby waives all claims in respect thereof against Lessor.

**8.6 Exemption of Lessor from Liability.** Lessee hereby agrees that Lessor shall not be liable for injury to Lessee's business or any loss of income therefrom or for damage to the goods, wares, merchandise or other property of Lessee. Lessee's employees, invitees, customers, or any other person in or about the Premises, nor shall Lessor be liable for injury to the person of Lessee, Lessee's employees, agents or contractors, whether such damage or injury is caused by or results from fire, steam, electricity, gas, water or rain, or from the breakage, leakage, obstruction or other defects of pipes, sprinklers, wires, appliances, plumbing, air conditioning or lighting fixtures, or from any other cause, whether the said damage or injury results from conditions arising upon the Premises or upon other portions of the building of which the Premises are a part, or from other sources or places, and regardless of whether the cause of such damage or injury or the means of repairing the same is inaccessible to Lessee. Lessor shall not be liable for any damages arising from any act or neglect of any other tenant, if any, of the building in which the Premises are located.

## 9. Damage or Destruction.

**9.1 Partial Damage—Insured.** Subject to the provisions of Paragraph 9.4, if the Premises are damaged and such damage was caused by a casualty covered under an insurance policy required to be maintained pursuant to Paragraph 8.2, Lessor shall at Lessor's expense repair such damage as soon as reasonably possible and this Lease shall continue in full force and effect.

**9.2 Partial Damage—Uninsured.** Subject to the provisions of Paragraph 9.4, if at any time during the term hereof the Premises are damaged, except by a negligent or willful act of Lessee, and such damage was caused by a casualty not covered under an insurance policy required to be maintained by Lessor pursuant to Paragraph 8.2, Lessor may at Lessor's option either (i) repair such damage as soon as reasonably possible at Lessor's expense, in which event this Lease shall continue in full force and effect, or (ii) give written notice to Lessee within thirty (30) days after the date of the occurrence of such damage of Lessor's intention to cancel and terminate this Lease as of the date of the occurrence of such damage. In the event Lessor elects to give such notice of Lessor's intention to cancel and terminate this Lease, Lessee shall have the right within ten (10) days after the receipt of such notice to give written notice to Lessor of Lessee's intention to repair such damage at Lessee's expense, without reimbursement from Lessor, in which event this Lease shall continue in full force and effect, and Lessee shall proceed to make such repairs as soon as reasonably possible. If Lessee does not give such notice within such 10-day period this Lease shall be cancelled and terminated as of the date of the occurrence of such damage.

**9.3 Total Destruction.** If at any time during the term hereof the Premises are totally destroyed from any cause whether or not covered by the insurance required to be maintained by Lessor pursuant to Paragraph 8.2 (including any total destruction required by any authorized public authority) this Lease shall automatically terminate as of the date of such total destruction.

**9.4 Damage Near End of Term.** If the Premises are partially destroyed or damaged during the last six months of the term of this Lease, Lessor may at Lessor's option cancel and terminate this Lease as of the date of occurrence of such damage by giving written notice to Lessee of Lessor's election to do so within 30 days after the date of occurrence of such damage.

## 9.5 Abatement of Rent; Lessee's Remedies.

(a) If the Premises are partially destroyed or damaged and Lessor or Lessee repairs or restores them pursuant to the provisions of this Article, the rent payable hereunder for the period during which such damage, repair or restoration continues shall be abated in proportion to the degree to which Lessee's use of the Premises is impaired. Except for abatement of rent, if any, Lessee shall have no claim against Lessor for any damage suffered by reason of such damage, destruction, repair or restoration.

(b) If Lessor shall be obligated to repair or restore the Premises under the provisions of this Paragraph 9 and shall not commence such repair or restoration within 90 days after such obligations shall accrue, Lessee may at Lessee's option cancel and terminate this Lease by giving Lessor written notice of Lessee's election to do so at any time prior to the commencement of such repair or restoration. In such event this Lease shall terminate as of the date of such notice. Any abatement in rent shall be computed as provided in Paragraph 9.5(a).

**9.6 Termination—Advance Payments.** Upon termination of this Lease pursuant to this Paragraph 9, an equitable adjustment shall be made concerning advance rent and any advance payments made by Lessee to Lessor. Lessor shall, in addition, return to Lessee so much of Lessee's security deposit as has not theretofore been applied by Lessor.

## 10. Real Property Taxes.

**10.1 Payment of Tax Increase.** Lessor shall pay all real property taxes applicable to the Premises, provided, however, that Lessee shall pay, in addition to rent, the amount, if any, by which real property taxes applicable to the Premises increase over the fiscal tax year 1978-79. Such payment shall be made by Lessee within thirty (30) days after receipt of Lessor's written statement setting forth the amount of such increase and the reasonable computation thereof. If the term of this Lease shall not expire concurrently with the expiration of the tax fiscal year, Lessee's liability for increased taxes for the last partial lease year shall be prorated on an annual basis.

**10.2 Definition of "Real Property" Tax.** As used herein, the term "real property tax" shall include any form of assessment, license fee, commercial rental tax, levy, penalty, or tax (other than inheritance or estate taxes), imposed by any authority having the direct or indirect power to tax, including any city, county, state or federal government, or any school, agricultural, lighting, drainage or other improvement district thereof, as against any legal or equitable interest of Lessor in the Premises or in the real property of which the Premises are a part, as against Lessor's right to rent or other income therefrom, or as against Lessor's business of leasing the Premises.

**10.3 Joint Assessment.** If the Premises are not separately assessed, Lessee's liability shall be an equitable proportion of the real property taxes for all of the land and improvements included within the tax parcel assessed, such proportion to be determined by Lessor from the respective valuations assigned in the assessor's work sheets or such other information as may be reasonably available. Lessor's reasonable determination thereof, in good faith, shall be conclusive.

## 10.4 Personal Property Taxes.

(a) Lessee shall pay prior to delinquency all taxes assessed against and levied upon trade fixtures, furnishings, equipment and all other personal property of Lessee contained in the Premises or elsewhere. When possible, Lessee shall cause said trade fixtures, furnishings, equipment and all other personal property to be assessed and billed separately from the real property of Lessor.

(b) If any of Lessee's said personal property shall be assessed with Lessor's real property, Lessee shall pay Lessor the taxes attributable to Lessee within 10 days after receipt of a written statement setting forth the taxes applicable to Lessee's property.

11. **Utilities.** Lessee shall pay for all water, gas, heat, light, power, telephone and other utilities and services supplied to the Premises, including taxes thereon. If any such services are not separately metered to Lessee, Lessee shall pay a reasonable proportion to be determined by Lessor of all charges jointly metered with other premises.

## 12. Assignment and Subletting

12.1 **Lessor's Consent Required.** Lessee shall not voluntarily or by operation of law assign, transfer, mortgage, sublet, or otherwise transfer or encumber all or any part of Lessee's interest in this Lease or in the Premises, without Lessor's prior written consent, which Lessor shall not unreasonably withhold. Any attempted assignment, transfer, mortgage, encumbrance or subletting without such consent shall be void, and shall constitute a breach of this Lease.

12.2 **No Release of Lessee.** Regardless of Lessor's consent, no subletting or assignment shall release Lessee of Lessee's obligation or alter the primary liability of Lessee to pay the rent and to perform all other obligations to be performed by Lessee hereunder. The acceptance of rent by Lessor from any other person shall not be deemed to be a waiver by Lessor of any provision hereof. Consent to one assignment or subletting shall not be deemed consent to any subsequent assignment or subletting.

12.3 **Attorney's Fees.** In the event that Lessor shall consent to a sublease or assignment under Paragraph 12.1, Lessee shall pay Lessor's reasonable attorney's fees not to exceed \$100 incurred in connection with giving such consent.

## 13. Defaults; Remedies.

13.1 **Defaults.** The occurrence of any one or more of the following events shall constitute a material default and breach of this Lease by Lessee:

(a) The vacating or abandonment of the Premises by Lessee.

(b) The failure by Lessee to make any payment of rent or any other payment required to be made by Lessee hereunder, as and when due, where such failure shall continue for a period of three days after written notice thereof from Lessor to Lessee.

(c) The failure by Lessee to observe or perform any of the covenants, conditions or provisions of this Lease to be observed or performed by Lessee, other than described in paragraph (b) above, where such failure shall continue for a period of 30 days after written notice hereof from Lessor to Lessee; provided, however, that if the nature of Lessee's default is such that more than 30 days are reasonably required for its cure, then Lessee shall not be deemed to be in default if Lessee commenced such cure within said 30-day period and thereafter diligently prosecutes such cure to completion.

(d) (i) The making by Lessee of any general assignment, or general arrangement for the benefit of creditors; (ii) the filing by or against Lessee of a petition to have Lessee adjudged a bankrupt or a petition for reorganization or arrangement under any law relating to bankruptcy (unless, in the case of a petition filed against Lessee, the same is dismissed within 60 days; (iii) the appointment of a trustee or receiver to take possession of substantially all of Lessee's assets located at the Premises or of Lessee's interest in this Lease, where possession is not restored to Lessee within 30 days; or (iv) the attachment, execution or other judicial seizure of substantially all of Lessee's assets located at the Premises or of Lessee's interest in this Lease, where such seizure is not discharged within 30 days.

13.2 **Remedies.** In the event of any such material default or breach by Lessee, Lessor may at any time thereafter, with or without notice or demand and without limiting Lessor in the exercise of any right or remedy which Lessor may have by reason of such default or breach:

(a) Terminate Lessee's right to possession of the Premises by any lawful means, in which case this Lease shall terminate and Lessee shall immediately surrender possession of the Premises to Lessor. In such event Lessor shall be entitled to recover from Lessee all damages incurred by Lessor by reason of Lessee's default including, but not limited to, the cost of recovering possession of the Premises; expenses of retaking, including necessary renovation and alteration of the Premises, reasonable attorney's fees, and any real estate commission actually paid; the worth at the time of award by the court having jurisdiction thereof of the amount by which the unpaid rent for the balance of the term after the time of such award exceeds the amount of such rental loss for the same period that Lessee proves could be reasonably avoided; that portion of the leasing commission paid by Lessor pursuant to Article 15 applicable to the unexpired term of this Lease. Unpaid installments of rent or other sums shall bear interest from the date due at the rate of 10% per annum. In the event Lessee shall have abandoned the Premises, Lessor shall have the option of (i) retaking possession of the Premises and recovering from Lessee the amount specified in this Paragraph 13.2(a), or (ii) proceeding under Paragraph 13.2(b).

(b) Maintain Lessee's right to possession in which case this Lease shall continue in effect whether or not Lessee shall have abandoned the Premises. In such event Lessor shall be entitled to enforce all of Lessor's rights and remedies under this Lease, including the right to recover the rent as it is due hereunder.

(c) Pursue any other remedy now or hereafter available to Lessor under the laws or judicial decisions of the State of California.

13.3 **Default by Lessor.** Lessor shall not be in default unless Lessor fails to perform obligations required of Lessor within a reasonable time, but in no event later than thirty (30) days after written notice by Lessee to Lessor and to the holder of any first mortgage or deed of trust covering the Premises whose name and address shall have theretofore been furnished to Lessee in writing, specifying wherein Lessor has failed to perform such obligation; provided, however, that if the nature of Lessor's obligation is such that more than thirty (30) days are required for performance then Lessor shall not be in default if Lessor commences performance within such 30-day period and thereafter diligently prosecutes the same to completion.

13.4 **Late Charges.** Lessee hereby acknowledges that late payment by Lessee to Lessor of rent and other sums due hereunder will cause Lessor to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed on Lessor by the terms of any mortgage or trust deed covering the Premises. Accordingly, if any installment of rent or any other sum due from Lessee shall not be received by Lessor or Lessor's designee within ten (10) days after such amount shall be due, Lessee shall pay to Lessor a late charge equal to 10% of such overdue amount. The parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Lessor will incur by reason of late payment by Lessee. Acceptance of such late charge by Lessor shall in no event constitute a waiver of Lessee's default with respect to such overdue amount, nor prevent Lessor from exercising any of the other rights and remedies granted hereunder.

14. **Condemnation.** If the Premises or any portion thereof are taken under the power of eminent domain, or sold under the threat of the exercise of said power (all of which are herein called "condemnation"), this Lease shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever first occurs. If more than 10% of the floor area of the improvements on the premises, or more than 25% of the land area of the Premises which is not occupied by any improvements, is taken by condemnation, Lessee may, at Lessee's option, to be exercised in writing only within ten (10) days after Lessor shall have given Lessee written notice of such taking (or in the absence of such notice, within ten (10) days after the condemning authority shall have taken possession) terminate this Lease as of the date the condemning authority takes such possession. If Lessee does not terminate this Lease in accordance with the foregoing, this Lease shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the proportion that the floor area taken bears to the total floor area of the building situated on the Premises. Any award for the taking of all or any part of the Premises under the power of eminent domain or any payment made under threat of the exercise of such power shall be the property of Lessor, whether such award shall be made as compensation for diminution in value of the leasehold or for the taking of the fee, or severance damages; provided, however, that Lessee shall be entitled to any award for loss of or damage to Lessee's trade fixtures and removable personal property. In the event that this Lease is not terminated by reason of such condemnation, Lessor shall, to the extent of severance damages received by Lessor in connection with such condemnation, repair any damage to the Premises caused by such condemnation except to the extent that Lessee has been reimbursed therefor by the condemning authority. Lessee shall pay any amount in excess of such severance damages required to complete such repair.

15. **Broker's Fee.** Upon execution of this Lease by both parties, Lessor shall pay to \_\_\_\_\_

licensed real estate broker, a fee of \$ NONE for brokerage services heretofore rendered. Lessor further agrees that if Lessee exercises any option granted herein or any option substantially similar thereto, either to extend the term of this Lease, to renew this Lease, to purchase said Premises or any part thereof and/or any adjacent property which Lessor may own or in which Lessor has an interest, or any other option granted herein, or if said broker is the procuring cause of any other lease or sale entered into between the parties pertaining to the Premises and/or any adjacent property in which Lessor has an interest, then as to any of said transactions, Lessor shall pay said broker a fee in accordance with the schedule of said broker in effect at the time of execution of this Lease. Lessor agrees to pay said fee not only on behalf of Lessor but also on behalf of any person, corporation, association, or other entity having an ownership interest in said real property or any part thereof, when such fee is due hereunder. Any transferee of Lessor's interest in this Lease, by accepting an assignment of such interest, shall be deemed to have assumed Lessor's obligation under this Paragraph 15. Said broker shall be a third party beneficiary of the provisions of this Paragraph.

## 16. General Provisions.

### 16.1 Estoppel Certificate.

(a) Lessee shall at any time upon not less than ten (10) days' prior written notice from Lessor execute, acknowledge and deliver to Lessor a statement in writing (i) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease, as so modified, is in full force and effect) and the date to which the rent and other charges are paid in advance, if any, and (ii) acknowledging that there are no, to Lessee's knowledge, any uncured defaults on the part of Lessor hereunder, or specifying such defaults if any are claimed. Any such statement may be conclusively relied upon by any prospective purchaser or encumbrancer of the Premises.

(b) Lessee's failure to deliver such statement within such time shall be conclusive upon Lessee (i) that this Lease is in full force and effect, without modification except as may be represented by Lessor, (ii) that there are no uncured defaults in Lessor's performance, and (iii) that not more than one month's rent has been paid in advance.

(c) If Lessor desires to finance or refinance the Premises, or any part thereof, Lessee hereby agrees to deliver to any lender designated by Lessor such financial statements of Lessee as may be reasonably required by such lender. Such statements shall include the past three years' financial statements of Lessee. All such financial statements shall be received by Lessor in confidence and shall be used only for the purposes herein set forth.

16.2 **Lessor's Liability.** The term "Lessor" as used herein shall mean only the owner or owners at the time in question of the fee title or a lessee's interest in a ground lease of the Premises, and except as expressly provided in Paragraph 15, in the event of any transfer of such title or interest, Lessor herein named (and in case of any subsequent transfers the then grantor) shall be relieved from and after the date of such transfer of all liability as respects Lessor's obligations thereafter to be performed, provided that any funds in the hands of Lessor or the then grantor at the time of such transfer, in which Lessee has an interest, shall be delivered to the grantee. The obligations contained in this Lease to be performed by Lessor shall, subject as aforesaid, be binding on Lessor's successors and assigns, only during their respective periods of ownership.

16.3 **Severability.** The invalidity of any provision of this Lease as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

16.4 **Interest on Past-due Obligations.** Except as expressly herein provided, any amount due to Lessor not paid when due shall bear interest at 10% per annum from the date due. Payment of such interest shall not excuse or cure any default by Lessee under this Lease.

16.5 **Time of Essence.** Time is of the essence.

16.6 **Captions.** Article and paragraph captions are not a part hereof.

16.7 **Incorporation of Prior Agreements, Amendments.** This Lease contains all agreements of the parties with respect to any matter mentioned herein. No prior agreement or understanding pertaining to any such matter shall be effective. This Lease may be modified in writing only, signed by the parties in interest at the time of the modification.

16.8 Notices. Any notice required or permitted to be given hereunder shall be in writing and may be served personally or by regular mail addressed to Lessor and Lessee respectively at the addresses set forth after their signatures at the end of this Lease.

16.9 Waivers. No waiver by Lessor of any provision hereof shall be deemed a waiver of any other provision hereof or of any subsequent breach by Lessee of the same or any other provision. Lessor's consent to or approval of any act shall not be deemed to render unnecessary the obtaining of Lessor's consent to or approval of any subsequent act by Lessee. The acceptance of rent hereunder by Lessor shall not be a waiver of any preceding breach by Lessee of any provision hereof, other than the failure of Lessee to pay the particular rent so accepted, regardless of Lessor's knowledge of such preceding breach at the time of acceptance of such rent.

16.10 Recording. Lessee shall not record this Lease without Lessor's prior written consent, and such recordation shall, at the option of Lessor, constitute a non-curable default of Lessee hereunder. Either party shall, upon request of the other, execute, acknowledge and deliver to the other a "short form" memorandum of this Lease for recording purposes.

16.11 Holding Over. If Lessee remains in possession of the Premises or any part thereof after the expiration of the term hereof without the express written consent of Lessor, such occupancy shall be a tenancy from month to month at a rental in the amount of the last monthly rental plus all other charges payable hereunder, and upon all the terms hereof applicable to a month-to-month tenancy.

16.12 Cumulative Remedies. No remedy or election hereunder shall be deemed exclusive but shall, wherever possible, be cumulative with all other remedies at law or in equity.

16.13 Covenants and Conditions. Each provision of this Lease performable by Lessee shall be deemed both a covenant and a condition.

16.14 Binding Effect; Choice of Law. Subject to any provisions hereof restricting assignment or subletting by Lessee and subject to the provisions of Paragraph 16.2, this Lease shall bind the parties, their personal representatives, successors and assigns. This Lease shall be governed by the laws of the State of California.

16.15 Subordination

(a) This Lease, at Lessor's option, shall be subordinate to any ground lease, mortgage, deed of trust, or any other hypothecation for security now or hereafter placed upon the real property of which the Premises are a part and to any and all advances made on the security thereof and to all renewals, modifications, consolidations, replacements and extensions thereof. Notwithstanding such subordination, Lessee's right to quiet possession of the Premises shall not be disturbed if Lessee is not in default and so long as Lessee shall pay the rent and observe and perform all of the provisions of this Lease, unless this Lease is otherwise terminated pursuant to its terms. If any mortgagee, trustee or ground lessor shall elect to have this Lease prior to the lien of its mortgage, deed of trust or ground lease, and shall give written notice thereof to Lessee, this Lease shall be deemed prior to such mortgage, deed of trust, or ground lease, whether this Lease is dated prior or subsequent to the date of said mortgage, deed of trust or ground lease or the date of recording thereof.

(b) Lessee agrees to execute any documents required to effectuate such subordination or to make this Lease prior to the lien of any mortgage, deed of trust or ground lease, as the case may be, and failing to do so within ten (10) days after written demand, does hereby make, constitute and irrevocably appoint Lessor as Lessee's attorney in fact and in Lessee's name, place and stead, to do so.

16.16 Attorney's Fees. If either party or the broker named herein brings an action to enforce the terms hereof or declare rights hereunder, the prevailing party in any such action, on trial or appeal, shall be entitled to his reasonable attorney's fees to be paid by the losing party as fixed by the court. The provisions of this paragraph shall inure to the benefit of the broker named herein who seeks to enforce a right hereunder.

16.17 Lessor's Access. Lessor and Lessor's agents shall have the right to enter the Premises at reasonable times for the purpose of inspecting it same, showing the same to prospective purchasers, or lenders, and making such alterations, repairs, improvements or additions to the Premises or to a building of which they are a part as Lessor may deem necessary or desirable. Lessor may at any time place on or about the Premises any ordinary "For Sale" signs and Lessor may at any time during the last 120 days of the term hereof place on or about the Premises any ordinary "For Lease" signs, without rebate of rent or liability to Lessee.

16.18 Signs and Auctions. Lessee shall not place any sign upon the Premises or conduct any auction thereon without Lessor's prior written consent.

16.19 Merger. The voluntary or other surrender of this Lease by Lessee, or a mutual cancellation thereof, shall not work a merger, and shall, at the option of Lessor, terminate all or any existing subtenancies or may, at the option of Lessor, operate as an assignment to Lessor of any or all of a subtenancies.

16.20 Corporate Authority. If Lessee is a corporation, each individual executing this Lease on behalf of said corporation represents and warrants that he is duly authorized to execute and deliver this Lease on behalf of said corporation, in accordance with a duly adopted resolution of the Board of Directors of said corporation or in accordance with the Bylaws of said corporation, and that this Lease is binding upon said corporation in accordance with its terms. If Lessee is a corporation Lessee shall, within thirty (30) days after execution of this Lease, deliver to Lessor a certified copy of resolution of the Board of Directors of said corporation authorizing or ratifying the execution of this Lease.

The parties hereto have executed this Lease at the place and on the dates specified immediately adjacent to their respective signatures.

If this Lease has been filled in it has been prepared for submission to your attorney for his approval. No representation or recommendation is made by the real estate broker or its agents or employees as to the legal sufficiency, legal effect, or tax consequences of this Lease or the transaction relating thereto.

Executed at LOS ANGELES.

on MARCH 30, 1979

Address \_\_\_\_\_

MARK ZIV

By MARK ZIV

By \_\_\_\_\_

"LESSOR"

Executed at Los Angeles, California

on April 27, 1979

Address 16650 Schoenborn Street

Sepulveda, California 91343

SPRAYCO INC.

By LEONARD W. MOORE.

PRESIDENT

By \_\_\_\_\_

"LESSEE"



EPA  
Q3

# Standard Industrial Lease

## AMERICAN INDUSTRIAL REAL ESTATE ASSOCIATION



1. **Parties.** This Lease, dated, for reference purposes only, MAY 30, 1984, is made by and between MARK ZIV

(herein called "Lessor") and SPRAYCO INC. A CALIFORNIA CORPORATION. (herein called "Lessee").

2. **Premises.** Lessor hereby leases to Lessee and Lessee leases from Lessor for the term, at the rental, and upon all of the conditions set forth herein, that certain real property situated in the County of LOS ANGELES. State of California, commonly known as 12600 SATICOY ST. NORTH HOLLYWOOD, CALIFORNIA. and described as PORTION OF LOT 112 TRACT NO. 1212 IN THE CITY OF LOS ANGELES.

Said real property including the land and all improvements thereon, is herein called "the Premises".

3. **Term.**

3.1 **Term.** The term of this Lease shall be for 64 MONTHS. (5 Years, and 4 Months.) commencing on SEPTEMBER 1ST, 1984 and ending on DECEMBER 30, 1989. unless sooner terminated pursuant to any provision hereof.

3.2 **Delay in Commencement.** Notwithstanding said commencement date, if for any reason Lessor cannot deliver possession of the Premises to Lessee on said date, Lessor shall not be subject to any liability therefor, nor shall such failure affect the validity of this Lease or the obligations of Lessee hereunder or extend the term hereof, but in such case Lessee shall not be obligated to pay rent until possession of the Premises is tendered to Lessee; provided, however, that if Lessor shall not have delivered possession of the Premises within sixty (60) days from said commencement date, Lessee may, at Lessee's option, by notice in writing to Lessor within ten (10) days thereafter, cancel this Lease, in which event the parties shall be discharged from all obligations hereunder. If Lessee occupies the Premises prior to said commencement date, such occupancy shall be subject to all provisions hereof, such occupancy shall not advance the termination date, and Lessee shall pay rent for such period at the initial monthly rates set forth below.

4. **Rent.** Lessee shall pay to Lessor as rent for the Premises See Paragraph 16-21. dollars (\$           ), payable in equal monthly installments of \$ 4,500.00 in advance, on the first day of each month of the term hereof. Lessee shall pay Lessor upon the execution hereof \$ 4,500.00 as rent for September 1984. To be paid on or before September 1st, 1984.

Rent for any period during the term hereof which is for less than one month shall be a pro rata portion of the monthly installment. Rent shall be payable in lawful money of the United States to Lessor at the address stated herein or to such other persons or at such other places as Lessor may designate in writing.

5. **Security Deposit.** Lessee shall deposit with Lessor upon execution hereof \$ 4,800.00 as security for Lessee's faithful performance of Lessee's obligations hereunder. If Lessee fails to pay rent or other charges due hereunder, or otherwise defaults with respect to any provision of this Lease, Lessor may use, apply or retain all or any portion of said deposit for the payment of any rent or other charge in default or for the payment of any other sum to which Lessor may become obligated by reason of Lessee's default, or to compensate Lessor for any loss or damage which Lessor may suffer thereby. If Lessor so uses or applies all or any portion of said deposit, Lessee shall within ten (10) days after written demand therefor deposit cash with Lessor in an amount sufficient to restore said deposit to the full amount hereinabove stated and Lessee's failure to do so shall be a material breach of this Lease. Lessor shall not be required to keep said deposit separate from its general accounts. If Lessee performs all of Lessee's obligations hereunder, said deposit, or so much thereof as has not theretofore been applied by Lessor, shall be returned, without payment of interest or other increment for its use, to Lessee (or, at Lessor's option, to the last assignee, if any, of Lessee's interest hereunder) at the expiration of the term hereof, and after Lessee has vacated the Premises.

6. **Use.**

6.1 **Use.** The Premises shall be used and occupied only for Any legally permitted use.

6.2 **Compliance with Law.** Lessee shall, at Lessee's expense, comply promptly with all applicable statutes, ordinances, rules, regulations, orders and requirements in effect during the term or any part of the term hereof regulating the use by Lessee of the Premises. Lessee shall not use or permit the use of the Premises in any manner that will tend to create waste or a nuisance or, if there shall be more than one tenant of the building containing the Premises, which shall tend to disturb such other tenants.

6.3 **Condition of Premises.** Lessee hereby accepts the Premises in their condition existing as of the date of the execution hereof, subject to all applicable zoning, municipal, county and state laws, ordinances and regulations governing and regulating the use of the Premises, and accepts this Lease subject thereto and to all matters disclosed thereby and by any exhibits attached hereto. Lessee acknowledges that neither Lessor nor Lessor's agent has made any representation or warranty as to the suitability of the Premises for the conduct of Lessee's business.

7. **Maintenance, Repairs and Alterations.**

7.1 **Lessor's Obligations.** Subject to the provisions of Article 9 and except for damage caused by any negligent or intentional act or omission of Lessee, Lessee's agents, employees, or invitees, Lessor, at Lessor's expense, shall keep in good order, condition and repair the foundations, exterior walls and the exterior roof of the Premises. Lessor shall not, however, be obligated to paint such exterior, nor shall Lessor be required to maintain the interior surface of exterior walls, windows, doors or plate glass. Lessor shall have no obligation to make repairs under this Paragraph 7.1 until a reasonable time after receipt of written notice of the need for such repairs. Lessee expressly waives the benefits of any statute now or hereafter in effect which would otherwise afford Lessee the right to make repairs at Lessor's expense or to terminate this Lease because of Lessor's failure to keep the Premises in good order, condition and repair.

7.2 **Lessee's Obligations.**

(a) Subject to the provisions of Paragraph 9 and Paragraph 7.1, Lessee, at Lessee's expense, shall keep in good order, condition and repair the Premises and every part thereof (regardless of whether the damaged portion of the Premises or the means of repairing the same are accessible to Lessee), including, without limiting the generality of the foregoing, all plumbing, heating, air conditioning, ventilating, electrical and lighting facilities and equipment within the Premises, fixtures, interior walls and interior surface of exterior walls, ceilings, windows, doors, plate glass, and skylights, located within the Premises and all sidewalks, landscaping, driveways, parking lots, fences and signs located in the areas which are adjacent to and included with the Premises.

(b) If Lessee fails to perform Lessee's obligations under this Paragraph 7.2, Lessor may at Lessor's option enter upon the Premises after 10 days' prior written notice to Lessee, and put the same in good order, condition and repair, and the cost thereof together with interest thereon at the rate of 10% per annum shall be due and payable as additional rent to Lessor together with Lessee's next rental installment.

(c) On the last day of the term hereof, or on any sooner termination, Lessee shall surrender the Premises to Lessor in the same condition as received, broom clean, ordinary wear and tear excepted. Lessee shall repair any damage to the Premises occasioned by the removal of its trade fixtures, furnishings and equipment pursuant to Paragraph 7.3(c), which repair shall include the patching and filling of holes and repair of structural damage.

7.3 **Alterations and Additions.**

(a) Lessee shall not, without Lessor's prior written consent, make any alterations, improvements, additions, or utility installations in, on or about the Premises, except for non-structural alterations not exceeding \$1,000 in cost. As used in this Paragraph 7.3, the term "utility installations" shall include bus ducting, power panels, fluorescent fixtures, space heaters, conduits and wiring. As a condition to giving such consent, Lessor may require that Lessee agree to remove any such alterations, improvements, additions or utility installations at the expiration of the term, and to restore the Premises to their prior condition. As a further condition to giving such consent, Lessor may require Lessee to provide Lessor, at Lessee's sole cost and expense, a lien and completion bond in an amount equal to one and one half times the estimated cost of such improvements, to insure Lessor against any liability for mechanics' and materialmen's liens and to insure completion of the work.



(b) Lessee shall pay, when due, all claims for labor or materials furnished or alleged to have been furnished to or for Lessee at or for use in the Premises, which claims are or may be secured by any mechanics' or materialmen's lien against the Premises or any interest therein. Lessee shall give Lessor not less than ten (10) days' notice prior to the commencement of any work in the Premises, and Lessor shall have the right to post notices of non-responsibility in or on the Premises as provided by law.

(c) Unless Lessor requires their removal, as set forth in Paragraph 7.3(a), all alterations, improvements, additions and utility installations (whether or not such utility installations constitute trade fixtures of Lessee), which may be made on the Premises, shall become the property of Lessor and remain upon and be surrendered with the Premises at the expiration of the term. Notwithstanding the provisions of this Paragraph 7.3(c), Lessee's machinery and equipment, other than that which is affixed to the Premises so that it cannot be removed without material damage to the Premises, shall remain the property of Lessee and may be removed by Lessee subject to the provisions of Paragraph 7.2(c).

#### **8. Insurance; Indemnity.**

**8.1 Liability Insurance.** Lessee shall, at Lessee's expense, obtain and keep in force during the term of this Lease a policy of comprehensive public liability insurance insuring Lessor and Lessee against any liability arising out of the ownership, use, occupancy or maintenance of the Premises and all areas appurtenant thereto. Such insurance shall be in an amount of not less than \$300,000 for injury to or death of one person in any one accident or occurrence and in an amount of not less than \$500,000 for injury to or death of more than one person in any one accident or occurrence. Such insurance shall further insure Lessor and Lessee against liability for property damage of at least \$50,000. The limits of said insurance shall not, however, limit the liability of Lessee hereunder. In the event that the Premises constitute a part of a larger property said insurance shall have a Lessor's Protective Liability endorsement attached thereto. If Lessee shall fail to procure and maintain said insurance Lessor may, but shall not be required to, procure and maintain the same, but at the expense of Lessee.

**8.2 Property Insurance.** Lessor shall obtain and keep in force during the term of this Lease a policy or policies of insurance covering loss or damage to the Premises, in the amount of the full replacement value thereof, providing protection against all perils included within the classification of fire, extended coverage, vandalism, malicious mischief, special extended perils (all risk). Lessee shall pay during the term hereof, in addition to rent, the amount of any increase in premiums for the insurance required under this Paragraph 8.2 over and above such premiums paid by Lessor during the first full year of the term of this Lease in which Lessor shall have maintained the insurance required under this Paragraph 8.2, whether such premium increase shall be the result of the nature of Lessee's occupancy, any act or omission of Lessee, requirements of the holder of a mortgage or deed of trust covering the Premises, or increased valuation of the Premises. Lessee shall pay any such premium increases to Lessor within 30 days after receipt by Lessee of a copy of the premium statement or other satisfactory evidence of the amount due. If the insurance policies maintained hereunder cover other improvements in addition to the Premises, Lessor shall also deliver to Lessee a statement of the amount of such increase attributable to the Premises and showing in reasonable detail the manner in which such amount was computed. If the term of this Lease shall not expire concurrently with the expiration of the period covered by such insurance, Lessee's liability for premium increases shall be prorated on an annual basis.

**8.3 Insurance Policies.** Insurance required hereunder shall be in companies rated AAA or better in "Best's Insurance Guide". Lessee shall deliver to Lessor copies of policies of liability insurance required under Paragraph 8.1 or certificates evidencing the existence and amounts of such insurance with loss payable clauses satisfactory to Lessor. No such policy shall be cancellable or subject to reduction of coverage or other modification except after ten (10) days' prior written notice to Lessor. Lessee shall, within ten (10) days prior to the expiration of such policies, furnish Lessor with renewals or "binders" thereof, or Lessor may order such insurance and charge the cost thereof to Lessee, which amount shall be payable by Lessee upon demand. Lessee shall not do or permit to be done anything which shall invalidate the insurance policies referred to in Paragraph 8.2.

**8.4 Waiver of Subrogation.** Lessee and Lessor each hereby waives any and all rights of recovery against the other, or against the officers, employees, agents and representatives of the other, for loss of or damage to such waiving party or its property or the property of others under its control, where such loss or damage is insured against under any insurance policy in force at the time of such loss or damage. Lessee and Lessor shall, upon obtaining the policies of insurance required hereunder, give notice to the insurance carrier or carriers that the foregoing mutual waiver of subrogation is contained in this Lease.

**8.5 Indemnity.** Lessee shall indemnify and hold harmless Lessor from and against any and all claims arising from Lessee's use of the Premises, or from the conduct of Lessee's business or from any activity, work or things done, permitted or suffered by Lessee in or about the Premises or elsewhere and shall further indemnify and hold harmless Lessor from and against any and all claims arising from any breach or default in the performance of any obligation on Lessee's part to be performed under the terms of this Lease, or arising from any negligence of the Lessee, or any of Lessee's agents, contractors, or employees, and from and against all costs, attorney's fees, expenses and liabilities incurred in the defense of any such claim or any action or proceeding brought thereon; and in case any action or proceeding be brought against Lessor by reason of any such claim, Lessee upon notice from Lessor shall defend the same at Lessee's expense by counsel satisfactory to Lessor. Lessee, as a material part of the consideration to Lessor, hereby assumes all risk of damage to property or injury to persons, in, upon or about the Premises arising from any cause and Lessee hereby waives all claims in respect thereof against Lessor.

**8.6 Exemption of Lessor from Liability.** Lessee hereby agrees that Lessor shall not be liable for injury to Lessee's business or any loss of income therefrom or for damage to the goods, wares, merchandise or other property of Lessee, Lessee's employees, invitees, customers, or any other person in or about the Premises, nor shall Lessor be liable for injury to the person of Lessee, Lessee's employees, agents or contractors, whether such damage or injury is caused by or results from fire, steam, electricity, gas, water or rain, or from the breakage, leakage, obstruction or other defects of pipes, sprinklers, wires, appliances, plumbing, air conditioning or lighting fixtures, or from any other cause, whether the said damage or injury results from conditions arising upon the Premises or upon other portions of the building of which the Premises are a part, or from other sources or places, and regardless of whether the cause of such damage or injury or the means of repairing the same is inaccessible to Lessee. Lessor shall not be liable for any damages arising from any act or neglect of any other tenant, if any, of the building in which the Premises are located.

#### **9. Damage or Destruction.**

**9.1 Partial Damage—Insured.** Subject to the provisions of Paragraph 9.4, if the Premises are damaged and such damage was caused by a casualty covered under an insurance policy required to be maintained pursuant to Paragraph 8.2, Lessor shall at Lessor's expense repair such damage as soon as reasonably possible and this Lease shall continue in full force and effect.

**9.2 Partial Damage—Uninsured.** Subject to the provisions of Paragraph 9.4, if at any time during the term hereof the Premises are damaged, except by a negligent or willful act of Lessee, and such damage was caused by a casualty not covered under an insurance policy required to be maintained by Lessor pursuant to Paragraph 8.2, Lessor may at Lessor's option either (i) repair such damage as soon as reasonably possible at Lessor's expense, in which event this Lease shall continue in full force and effect, or (ii) give written notice to Lessee within thirty (30) days after the date of the occurrence of such damage of Lessor's intention to cancel and terminate this Lease as of the date of the occurrence of such damage. In the event Lessor elects to give such notice of Lessor's intention to cancel and terminate this Lease, Lessee shall have the right within ten (10) days after the receipt of such notice to give written notice to Lessor of Lessee's intention to repair such damage at Lessee's expense, without reimbursement from Lessor, in which event this Lease shall continue in full force and effect, and Lessee shall proceed to make such repairs as soon as reasonably possible. If Lessee does not give such notice within such 10-day period this Lease shall be cancelled and terminated as of the date of the occurrence of such damage.

**9.3 Total Destruction.** If at any time during the term hereof the Premises are totally destroyed from any cause whether or not covered by the insurance required to be maintained by Lessor pursuant to Paragraph 8.2 (including any total destruction required by any authorized public authority) this Lease shall automatically terminate as of the date of such total destruction.

**9.4 Damage Near End of Term.** If the Premises are partially destroyed or damaged during the last six months of the term of this Lease, Lessor may at Lessor's option cancel and terminate this Lease as of the date of occurrence of such damage by giving written notice to Lessee of Lessor's election to do so within 30 days after the date of occurrence of such damage.

#### **9.5 Abatement of Rent; Lessee's Remedies.**

(a) If the Premises are partially destroyed or damaged and Lessor or Lessee repairs or restores them pursuant to the provisions of this Article, the rent payable hereunder for the period during which such damage, repair or restoration continues shall be abated in proportion to the degree to which Lessee's use of the Premises is impaired. Except for abatement of rent, if any, Lessee shall have no claim against Lessor for any damage suffered by reason of such damage, destruction, repair or restoration.

(b) If Lessor shall be obligated to repair or restore the Premises under the provisions of this Paragraph 9 and shall not commence such repair or restoration within 90 days after such obligations shall accrue, Lessee may at Lessor's option cancel and terminate this Lease by giving Lessor written notice of Lessee's election to do so at any time prior to the commencement of such repair or restoration. In such event this Lease shall terminate as of the date of such notice. Any abatement in rent shall be computed as provided in Paragraph 9.5(a).

**9.6 Termination—Advance Payments.** Upon termination of this Lease pursuant to this Paragraph 9, an equitable adjustment shall be made concerning advance rent and any advance payments made by Lessee to Lessor. Lessor shall, in addition, return to Lessee so much of Lessee's security deposit as has not theretofore been applied by Lessor.

#### **10. Real Property Taxes.**

**10.1 Payment of Tax Increase.** Lessor shall pay all real property taxes applicable to the Premises; provided, however, that Lessee shall pay, in addition to rent, the amount, if any, by which real property taxes applicable to the Premises increase over the fiscal tax year 19 84-85. Such payment shall be made by Lessee within thirty (30) days after receipt of Lessor's written statement setting forth the amount of such increase and the reasonable computation thereof. If the term of this Lease shall not expire concurrently with the expiration of the tax fiscal year, Lessee's liability for increased taxes for the last partial lease year shall be prorated on an annual basis.

**10.2 Definition of "Real Property" Tax.** As used herein, the term "real property tax" shall include any form of assessment, license fee, commercial rental tax, levy, penalty, or tax (other than inheritance or estate taxes), imposed by any authority having the direct or indirect power to tax, including any city, county, state or federal government, or any school, agricultural, lighting, drainage or other improvement district thereof, as against any legal or equitable interest of Lessor in the Premises or in the real property of which the Premises are a part, as against Lessor's right to rent or other income therefrom, or as against Lessor's business of leasing the Premises.

**10.3 Joint Assessment.** If the Premises are not separately assessed, Lessee's liability shall be an equitable proportion of the real property taxes for all of the land and improvements included within the tax parcel assessed, such proportion to be determined by Lessor from the respective valuations assigned in the assessor's work sheets or such other information as may be reasonably available. Lessor's reasonable determination thereof, in good faith, shall be conclusive.

#### **10.4 Personal Property Taxes.**

(a) Lessee shall pay prior to delinquency all taxes assessed against and levied upon trade fixtures, furnishings, equipment and all other personal property of Lessee contained in the Premises or elsewhere. When possible, Lessee shall cause said trade fixtures, furnishings, equipment and all other personal property to be assessed and billed separately from the real property of Lessor.

(b) If any of Lessee's said personal property shall be assessed with Lessor's real property, Lessee shall pay Lessor the taxes attributable to Lessee within 10 days after receipt of a written statement setting forth the taxes applicable to Lessee's property.



11. **Utilities.** Lessee shall pay for all water, gas, heat, light, power, telephone and other utilities and services supplied to the Premises, together with any taxes thereon. If any such services are not separately metered to Lessee, Lessee shall pay a reasonable proportion to be determined by Lessor of all charges jointly metered with other premises.

12. **Assignment and Subletting.**

12.1 **Lessor's Consent Required.** Lessee shall not voluntarily or by operation of law assign, transfer, mortgage, sublet, or otherwise transfer or encumber all or any part of Lessee's interest in this Lease or in the Premises, without Lessor's prior written consent, which Lessor shall not unreasonably withhold. Any attempted assignment, transfer, mortgage, encumbrance or subletting without such consent shall be void, and shall constitute a breach of this Lease.

12.2 **No Release of Lessee.** Regardless of Lessor's consent, no subletting or assignment shall release Lessee of Lessee's obligation or alter the primary liability of Lessee to pay the rent and to perform all other obligations to be performed by Lessee hereunder. The acceptance of rent by Lessor from any other person shall not be deemed to be a waiver by Lessor of any provision hereof. Consent to one assignment or subletting shall not be deemed consent to any subsequent assignment or subletting.

12.3 **Attorney's Fees.** In the event that Lessor shall consent to a sublease or assignment under Paragraph 12.1, Lessee shall pay Lessor's reasonable attorneys' fees not to exceed \$100 incurred in connection with giving such consent.

13. **Defaults; Remedies.**

13.1 **Defaults.** The occurrence of any one or more of the following events shall constitute a material default and breach of this Lease by Lessee:

(a) The vacating or abandonment of the Premises by Lessee.

(b) The failure by Lessee to make any payment of rent or any other payment required to be made by Lessee hereunder, as and when due, where such failure shall continue for a period of three days after written notice thereof from Lessor to Lessee.

(c) The failure by Lessee to observe or perform any of the covenants, conditions or provisions of this Lease to be observed or performed by Lessee, other than described in paragraph (b) above, where such failure shall continue for a period of 30 days after written notice hereof from Lessor to Lessee; provided, however, that if the nature of Lessee's default is such that more than 30 days are reasonably required for its cure, then Lessee shall not be deemed to be in default if Lessee commenced such cure within said 30-day period and thereafter diligently prosecutes such cure to completion.

(d) (i) The making by Lessee of any general assignment, or general arrangement for the benefit of creditors; (ii) the filing by or against Lessee of a petition to have Lessee adjudged a bankrupt or a petition for reorganization or arrangement under any law relating to bankruptcy (unless, in the case of a petition filed against Lessee, the same is dismissed within 60 days; (iii) the appointment of a trustee or receiver to take possession of substantially all of Lessee's assets located at the Premises or of Lessee's interest in this Lease, where possession is not restored to Lessee within 30 days; or (iv) the attachment, execution or other judicial seizure of substantially all of Lessee's assets located at the Premises or of Lessee's interest in this Lease, where such seizure is not discharged within 30 days.

13.2 **Remedies.** In the event of any such material default or breach by Lessee, Lessor may at any time thereafter, with or without notice or demand and without limiting Lessor in the exercise of any right or remedy which Lessor may have by reason of such default or breach:

(a) Terminate Lessee's right to possession of the Premises by any lawful means, in which case this Lease shall terminate and Lessee shall immediately surrender possession of the Premises to Lessor. In such event Lessor shall be entitled to recover from Lessee all damages incurred by Lessor by reason of Lessee's default including, but not limited to, the cost of recovering possession of the Premises; expenses of reletting, including necessary renovation and alteration of the Premises, reasonable attorney's fees, and any real estate commission actually paid; the worth at the time of award by the court having jurisdiction thereof of the amount by which the unpaid rent for the balance of the term after the time of such award exceeds the amount of such rental loss for the same period that Lessee proves could be reasonably avoided; that portion of the leasing commission paid by Lessor pursuant to Article 15 applicable to the unexpired term of this Lease. Unpaid installments of rent or other sums shall bear interest from the date due at the rate of 10% per annum. In the event Lessee shall have abandoned the Premises, Lessor shall have the option of (i) retaking possession of the Premises and recovering from Lessee the amount specified in this Paragraph 13.2(a), or (ii) proceeding under Paragraph 13.2(b).

(b) Maintain Lessee's right to possession in which case this Lease shall continue in effect whether or not Lessee shall have abandoned the Premises. In such event Lessor shall be entitled to enforce all of Lessor's rights and remedies under this Lease, including the right to recover the rent as it becomes due hereunder.

(c) Pursue any other remedy now or hereafter available to Lessor under the laws or judicial decisions of the State of California.

13.3 **Default by Lessor.** Lessor shall not be in default unless Lessor fails to perform obligations required of Lessor within a reasonable time, but in no event later than thirty (30) days after written notice by Lessee to Lessor and to the holder of any first mortgage or deed of trust covering the Premises whose name and address shall have theretofore been furnished to Lessee in writing, specifying wherein Lessor has failed to perform such obligation; provided, however, that if the nature of Lessor's obligation is such that more than thirty (30) days are required for performance then Lessor shall not be in default if Lessor commences performance within such 30-day period and thereafter diligently prosecutes the same to completion.

13.4 **Late Charges.** Lessee hereby acknowledges that late payment by Lessee to Lessor of rent and other sums due hereunder will cause Lessor to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed on Lessor by the terms of any mortgage or trust deed covering the Premises. Accordingly, if any installment of rent or any other sum due from Lessee shall not be received by Lessor or Lessor's designee within ten (10) days after such amount shall be due, Lessee shall pay to Lessor a late charge equal to 10% of such overdue amount. The parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Lessor will incur by reason of late payment by Lessee. Acceptance of such late charge by Lessor shall in no event constitute a waiver of Lessee's default with respect to such overdue amount, nor prevent Lessor from exercising any of the other rights and remedies granted hereunder.

14. **Condemnation.** If the Premises or any portion thereof are taken under the power of eminent domain, or sold under the threat of the exercise of said power (all of which are herein called "condemnation"), this Lease shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever first occurs. If more than 10% of the floor area of the improvements on the premises, or more than 25% of the land area of the Premises which is not occupied by any improvements, is taken by condemnation, Lessee may, at Lessee's option, to be exercised in writing only within ten (10) days after Lessor shall have given Lessee written notice of such taking (or in the absence of such notice, within ten (10) days after the condemning authority shall have taken possession) terminate this Lease as of the date the condemning authority takes such possession. If Lessee does not terminate this Lease in accordance with the foregoing, this Lease shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the proportion that the floor area taken bears to the total floor area of the building situated on the Premises. Any award for the taking of all or any part of the Premises under the power of eminent domain or any payment made under threat of the exercise of such power shall be the property of Lessor, whether such award shall be made as compensation for diminution in value of the leasehold or for the taking of the fee, or as severance damages; provided, however, that Lessee shall be entitled to any award for loss of or damage to Lessee's trade fixtures and removable personal property. In the event that this Lease is not terminated by reason of such condemnation, Lessor shall, to the extent of severance damages received by Lessor in connection with such condemnation, repair any damage to the Premises caused by such condemnation except to the extent that Lessee has been reimbursed therefor by the condemning authority. Lessee shall pay any amount in excess of such severance damages required to complete such repair.

15. **Broker's Fee.** Upon execution of this Lease by both parties, Lessor shall pay to \_\_\_\_\_ a

licensed real estate broker, a fee of \$ None for brokerage services heretofore rendered. Lessor further agrees that if Lessee exercises any option granted herein or any option substantially similar thereto, either to extend the term of this Lease, to renew this Lease, to purchase said Premises or any part thereof and/or any adjacent property which Lessor may own or in which Lessor has an interest, or any other option granted herein, or if said broker is the procuring cause of any other lease or sale entered into between the parties pertaining to the Premises and/or any adjacent property in which Lessor has an interest, then as to any of said transactions, Lessor shall pay said broker a fee in accordance with the schedule of said broker in effect at the time of execution of this Lease. Lessor agrees to pay said fee not only on behalf of Lessor but also on behalf of any person, corporation, association, or other entity having an ownership interest in said real property or any part thereof, when such fee is due hereunder. Any transferee of Lessor's interest in this Lease, by accepting an assignment of such interest, shall be deemed to have assumed Lessor's obligation under this Paragraph 15. Said broker shall be a third party beneficiary of the provisions of this Paragraph

16. **General Provisions.**

16.1 **Estoppel Certificate.**

(a) Lessee shall at any time upon not less than ten (10) days' prior written notice from Lessor execute, acknowledge and deliver to Lessor a statement in writing (i) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease, as so modified, is in full force and effect) and the date to which the rent and other charges are paid in advance, if any, and (ii) acknowledging that there are not, to Lessee's knowledge, any uncured defaults on the part of Lessor hereunder, or specifying such defaults if any are claimed. Any such statement may be conclusively relied upon by any prospective purchaser or encumbrancer of the Premises.

(b) Lessee's failure to deliver such statement within such time shall be conclusive upon Lessee (i) that this Lease is in full force and effect, without modification except as may be represented by Lessor, (ii) that there are no uncured defaults in Lessor's performance, and (iii) that not more than one month's rent has been paid in advance.

(c) If Lessor desires to finance or refinance the Premises, or any part thereof, Lessee hereby agrees to deliver to any lender designated by Lessor such financial statements of Lessee as may be reasonably required by such lender. Such statements shall include the past three years' financial statements of Lessee. All such financial statements shall be received by Lessor in confidence and shall be used only for the purposes herein set forth.

16.2 **Lessor's Liability.** The term "Lessor" as used herein shall mean only the owner or owners at the time in question of the fee title or a lessee's interest in a ground lease of the Premises, and except as expressly provided in Paragraph 15, in the event of any transfer of such title or interest, Lessor herein named (and in case of any subsequent transfers the then grantor) shall be relieved from and after the date of such transfer of all liability as respects Lessor's obligations thereafter to be performed, provided that any funds in the hands of Lessor or the then grantor at the time of such transfer, in which Lessee has an interest, shall be delivered to the grantee. The obligations contained in this Lease to be performed by Lessor shall, subject as aforesaid, be binding on Lessor's successors and assigns, only during their respective periods of ownership.

16.3 **Severability.** The invalidity of any provision of this Lease as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

16.4 **Interest on Past-due Obligations.** Except as expressly herein provided, any amount due to Lessor not paid when due shall bear interest at 10% per annum from the date due. Payment of such interest shall not excuse or cure any default by Lessee under this Lease.

16.5 **Time of Essence.** Time is of the essence.

16.6 **Captions.** Article and paragraph captions are not a part hereof.

16.7 **Incorporation of Prior Agreements; Amendments.** This Lease contains all agreements of the parties with respect to any matter mentioned herein. No prior agreement or understanding pertaining to any such matter shall be effective. This Lease may be modified in writing only, signed by the parties in interest at the time of the modification

16.8 **Notices.** Any notice required or permitted to be given hereunder shall be in writing and may be served personally or by regular mail, addressed to Lessor and Lessee respectively at the addresses set forth after their signatures at the end of this Lease.

16.9 **Waivers.** No waiver by Lessor of any provision hereof shall be deemed a waiver of any other provision hereof or of any subsequent breach by Lessee of the same or any other provision. Lessor's consent to or approval of any act shall not be deemed to render unnecessary the obtaining of Lessor's consent to or approval of any subsequent act by Lessee. The acceptance of rent hereunder by Lessor shall not be a waiver of any preceding breach by Lessee of any provision hereof, other than the failure of Lessee to pay the particular rent so accepted, regardless of Lessor's knowledge of such preceding breach at the time of acceptance of such rent.

16.10 **Recording.** Lessee shall not record this Lease without Lessor's prior written consent, and such recordation shall, at the option of Lessor, constitute a non-curable default of Lessee hereunder. Either party shall, upon request of the other, execute, acknowledge and deliver to the other a "short form" memorandum of this Lease for recording purposes.

16.11 **Holding Over.** If Lessee remains in possession of the Premises or any part thereof after the expiration of the term hereof without the express written consent of Lessor, such occupancy shall be a tenancy from month to month at a rental in the amount of the last monthly rental plus all other charges payable hereunder, and upon all the terms hereof applicable to a month-to-month tenancy.

16.12 **Cumulative Remedies.** No remedy or election hereunder shall be deemed exclusive but shall, wherever possible, be cumulative with all other remedies at law or in equity.

16.13 **Covenants and Conditions.** Each provision of this Lease performable by Lessee shall be deemed both a covenant and a condition.

16.14 **Binding Effect; Choice of Law.** Subject to any provisions hereof restricting assignment or subletting by Lessee and subject to the provisions of Paragraph 16.2, this Lease shall bind the parties, their personal representatives, successors and assigns. This Lease shall be governed by the laws of the State of California.

16.15 **Subordination.**

(a) This Lease, at Lessor's option, shall be subordinate to any ground lease, mortgage, deed of trust, or any other hypothecation for security now or hereafter placed upon the real property of which the Premises are a part and to any and all advances made on the security thereof and to all renewals, modifications, consolidations, replacements and extensions thereof. Notwithstanding such subordination, Lessee's right to quiet possession of the Premises shall not be disturbed if Lessee is not in default and so long as Lessee shall pay the rent and observe and perform all of the provisions of this Lease, unless this Lease is otherwise terminated pursuant to its terms. If any mortgagee, trustee or ground lessor shall elect to have this Lease prior to the lien of its mortgage, deed of trust or ground lease, and shall give written notice thereof to Lessee, this Lease shall be deemed prior to such mortgage, deed of trust, or ground lease, whether this Lease is dated prior or subsequent to the date of said mortgage, deed of trust or ground lease or the date of recording thereof.

(b) Lessee agrees to execute any documents required to effectuate such subordination or to make this Lease prior to the lien of any mortgage, deed of trust or ground lease, as the case may be, and failing to do so within ten (10) days after written demand, does hereby make, constitute and irrevocably appoint Lessor as Lessee's attorney in fact and in Lessee's name, place and stead, to do so.

16.16 **Attorney's Fees.** If either party or the broker named herein brings an action to enforce the terms hereof or declare rights hereunder, the prevailing party in any such action, on trial or appeal, shall be entitled to his reasonable attorney's fees to be paid by the losing party as fixed by the court. The provisions of this paragraph shall inure to the benefit of the broker named herein who seeks to enforce a right hereunder.

16.17 **Lessor's Access.** Lessor and Lessor's agents shall have the right to enter the Premises at reasonable times for the purpose of inspecting the same, showing the same to prospective purchasers, or lenders, and making such alterations, repairs, improvements or additions to the Premises or to the building of which they are a part as Lessor may deem necessary or desirable. Lessor may at any time place on or about the Premises any ordinary "For Sale" signs and Lessor may at any time during the last 120 days of the term hereof place on or about the Premises any ordinary "For Lease" signs, all without rebate of rent or liability to Lessee.

16.18 **Signs and Auctions.** Lessee shall not place any sign upon the Premises or conduct any auction thereon without Lessor's prior written consent.

16.19 **Merger.** The voluntary or other surrender of this Lease by Lessee, or a mutual cancellation thereof, shall not work a merger, and shall, at the option of Lessor, terminate all or any existing subtenancies or may, at the option of Lessor, operate as an assignment to Lessor of any or all of such subtenancies.

16.20 **Corporate Authority.** If Lessee is a corporation, each individual executing this Lease on behalf of said corporation represents and warrants that he is duly authorized to execute and deliver this Lease on behalf of said corporation, in accordance with a duly adopted resolution of the Board of Directors of said corporation or in accordance with the Bylaws of said corporation, and that this Lease is binding upon said corporation in accordance with its terms. If Lessee is a corporation Lessee shall, within thirty (30) days after execution of this Lease, deliver to Lessor a certified copy of a resolution of the Board of Directors of said corporation authorizing or ratifying the execution of this Lease.

## 16-21 THE MONTHLY RENT FOR THE PREMISES DURING THIS LEASE, SHALL BE AS FOLLOWS.

\$4,500.00 per Month, from September 1st. 1984, to December 30, 1984.  
\$5,000.00 per Month, from January 1st. 1985, to December 30, 1985.  
\$5,500.00 per Month, from January 1st. 1986, to December 30, 1986.  
\$6,000.00 per Month, from January 1st. 1987, to December 30, 1987.  
\$6,500.00 per Month, from January 1st. 1988, to December 30, 1988.  
\$7,000.00 per Month, from January 1st. 1989, to December 30, 1989. (END OF LEASE.).

The parties hereto have executed this Lease at the place and on the dates specified immediately adjacent to their respective signatures.

If this Lease has been filled in it has been prepared for submission to your attorney for his approval. No representation or recommendation is made by the real estate broker or its agents or employees as to the legal sufficiency, legal effect, or tax consequences of this Lease or the transaction relating thereto.

Executed at LOS ANGELES, CALIFORNIA.

6-5-84

Address FX-6 Personal Privacy

By MARK ZIV

By [Signature]

"LESSOR"

Executed at LOS ANGELES, CALIFORNIA.

on 6-5-1984

Address 12600 Saticoy St.

North Hollywood, California.

SPRAYCO INC.

By [Signature]

By NEVILLE ISAACSON. PRESIDENT.

"LESSEE"

**EXHIBIT C**

OPTION

Lessor (Mark Ziv) grants to Lessee (Sprayco, Inc.) and its' assigns an option to extend the lease, dated March 30, 1979, for the premises at 12600 Saticoy for a period of five (5) years, beginning on the 1st day of September 1984 at a rental as Lessor shall then determine, providing however, that the rent shall be the fair market rental rate of the leased premises as of the commencement date of the extended term. Such fair market rental rate shall be ascertained by comparing the subject premises to other like premises in like areas in the vicinity.

Lessee shall notify Lessor in writing of its desire to exercise such option at least four (4) months prior to the expiration of the original lease term. Lessor shall notify Lessee in writing within thirty (30) days after receipt of such written notice from Lessee of the amount of rental and other terms applicable to such additional extension period. Lessee shall have a period of twenty (20) days after receipt of such notice from Lessor within which to deliver to Lessor notice in writing of its acceptance or rejection of said offer.

Failure of Lessee to so accept within said twenty (20) day period shall be construed as a rejection of said offer and this option shall thereupon be null and void.

DATE: 9/22/81

Mark Ziv  
Mark Ziv, Lessor

DATE: 9/16/81

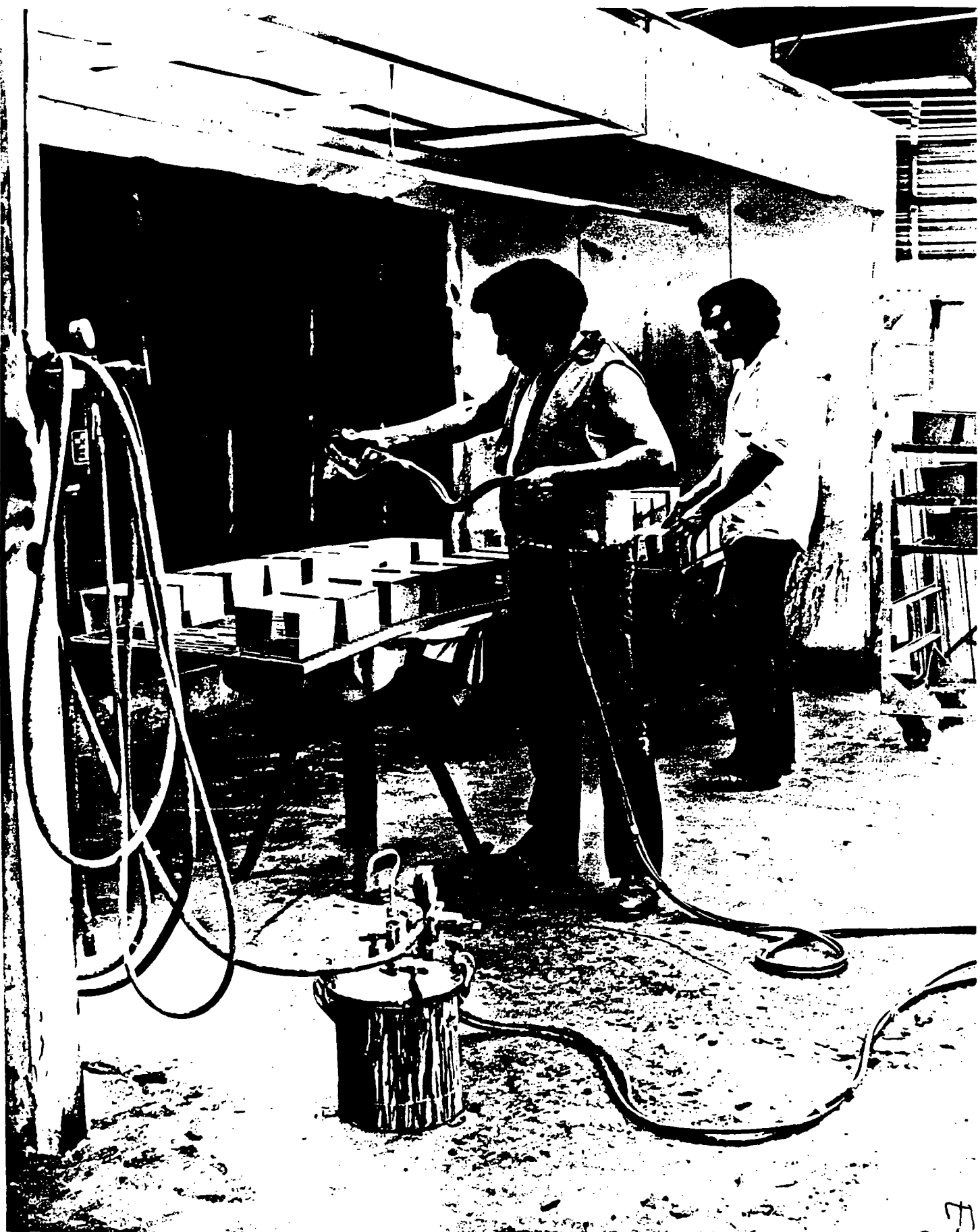
Leonard W. Moore  
Leonard W. Moore, President  
Sprayco, Inc.

**EXHIBIT D**

2711 X-50

075004





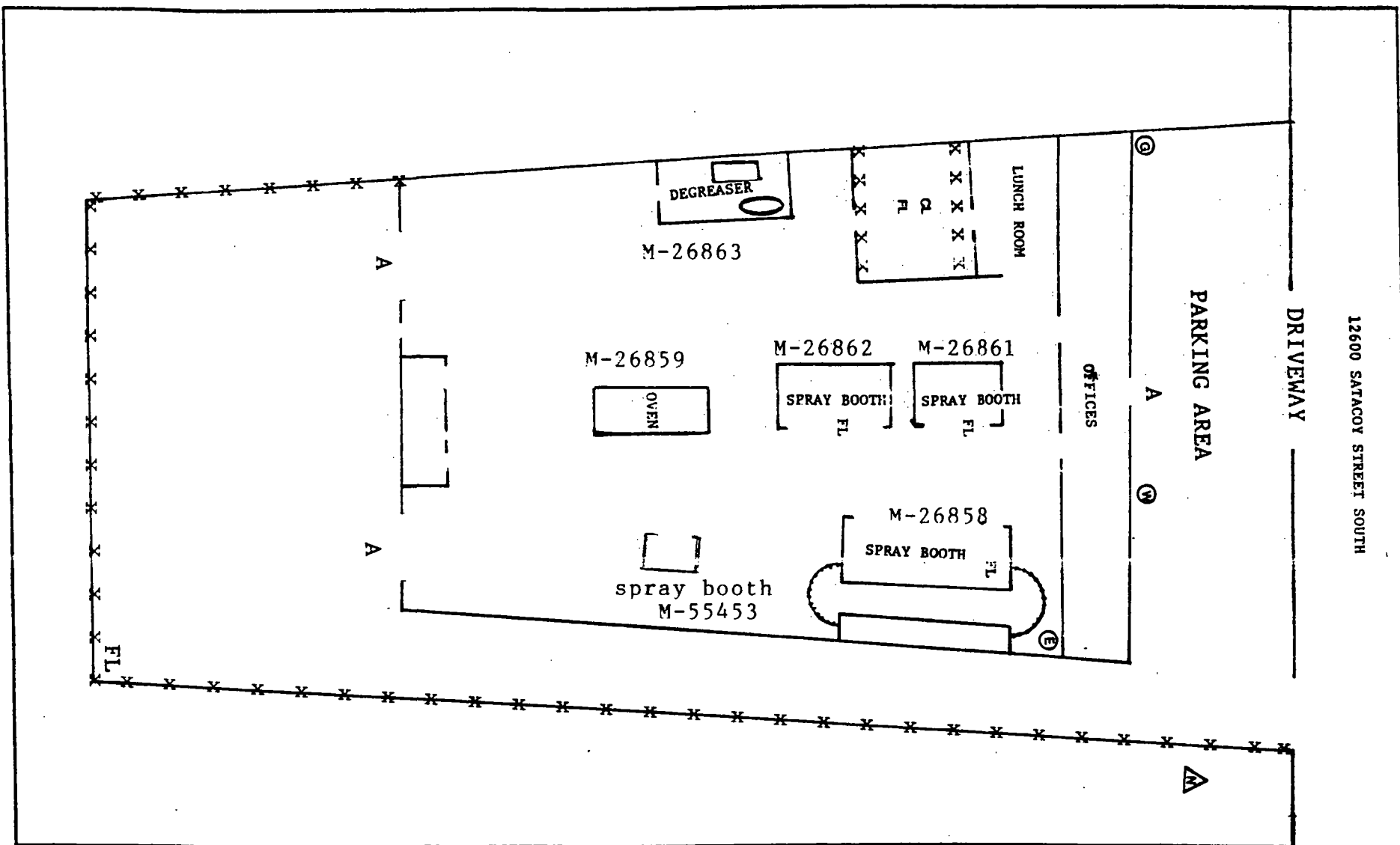
EPA  
QSC

**EXHIBIT E**



C 171 8.0.

500910



Business Name: CLYDE LEE INC.

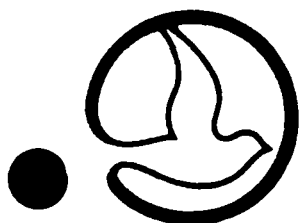
Business Address (Site Address): 12600 SATACOV STREET SOUTH

Facility Unit: BUILDING

Main Business Activity: SPRAY PAINTING METAL PARTS.

Scale of Map: 1 in = 25 ft Date: 2-8-88

(KEY TO SYMBOLS AND ABBREVIATIONS ON THE FRONT OF THIS FORM)



South Coast  
AIR QUALITY MANAGEMENT DISTRICT

HEADQUARTERS, 9150 FLAIR DR., EL MONTE, CA 91731

NOVEMBER 13, 1990

SPRAYCO INC, CLYDE LEE DEA  
12600 SATICOY ST  
NORTH HOLLYWOOD CA 91605

ID - 019868

PERMIT RENEWALS

PERMIT NUMBER	DESCRIPTION	APPLIC NUMBER	EXPIRATION DATE
M55454	OVEN, BAKING	151645	10/16/91
M55453	SPRAY BOOTH PAINT AND SOLVENT	151646	10/16/91
M26858	SPRAY BOOTH PAINT AND SOLVENT	C43524	10/16/91
M26859	OVEN, BAKING	C43525	10/16/91
M26862	SPRAY BOOTH PAINT AND SOLVENT	C43528	10/16/91
M26863	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)	C43529	10/16/91

**EXHIBIT F**

# GOLDEN STATE

## Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406

Tel: (818) 376-1122 • Fax: (818) 781-8128

Client: Sprayco, Inc.  
Project Name: N/A  
Project #: N/A  
Matrix: Sludge  
Date Received: 08/23/90  
Date Analyzed: 08/27/90  
GSAS Job#: 5601

### TCLP Metals

Amount Detected  
(mg/L)

R.L.  
(mg/L)

Client Sample#: 1  
GSAS Sample#: GS-0890-381

Arsenic	BRL	0.10
Barium	4.0	0.20
Cadmium	0.11	0.05
Chromium	18	0.20
Lead	3.3	0.20
Mercury	BRL	0.01
Selenium	BRL	0.02
Silver	BRL	0.05

RL: Reporting Limit  
BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett

*Dr. B. Gene Bennett*



# GOLDEN STATE

## Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406  
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client: Sprayco, Inc.  
Project Name: N/A  
Project#: N/A  
Client P.O.#: N/A  
Client Sample#: 1

Matrix: Sludge  
Date Received: 08/23/90  
Date Analyzed: 08/27/90  
GSAS Job#: 5601  
GSAS Sample#: GS-0890-381

### Halogenated Volatile Organics (8010)

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	50
Bromomethane	BRL	50
Vinyl Chloride	BRL	50
Dichlorodifluoromethane	BRL	50
Chloroethane	BRL	50
Methylene Chloride	BRL	50
Trichlorofluoromethane	BRL	50
1,1-Dichloroethylene	BRL	50
1,1-Dichloroethane	BRL	50
trans-1,2-Dichloroethylene	BRL	50
Chloroform	BRL	50
1,2-Dichloroethane	BRL	50
1,1,1-Trichloroethane	2100	50
Carbon Tetrachloride	BRL	50
Bromodichloromethane	BRL	50
1,2-Dichloropropane	BRL	50
cis-1,3-Dichloropropylene	BRL	50
1,1,2-Trichloroethylene	BRL	50
Dibromochloromethane	BRL	50
1,1,2-Trichloroethane	BRL	50
trans-1,3-Dichloropropylene	BRL	50
2-Chloroethylvinyl Ether	BRL	50
Bromoform	BRL	50
1,1,2,2-Tetrachloroethane	BRL	50
1,1,2,2-Tetrachloroethylene	BRL	50
Chlorobenzene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50

RL: Reporting Limit  
BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett

*Dr. B. Gene Bennett*

# GOLDEN STATE Analytical Services, Inc.



15735-1 Strathern St. • Van Nuys • CA 91406  
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client: Sprayco, Inc.  
Project Name: N/A  
Project #: N/A  
Client PO#: N/A  
Matrix: Sludge  
Date Received: 08/23/90  
Date Analyzed: 08/27/90  
GSAS Job#: 5601

## Total Petroleum Hydrocarbons (8015m)

Client Sample #	GSAS Sample #	Amount Detected (mg/Kg)	R.L. (mg/Kg)
-----------------	---------------	-------------------------------	-----------------

-----

## Methanol

1	GS-0890-381	BRL	1.0
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## Dipropylene Glycol Monomethyl Ether

1	GS-0890-381	BRL	1.0
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RL: Reporting Limit  
BRL: Below Reporting Limit

Approved By: Dr. B. Gene Bennett

*Dr. B. Gene Bennett*

# GOLDEN STATE

## Analytical Services, Inc.

15735-1 Strathern St. • Van Nuys • CA 91406  
Tel: (818) 376-1122 • Fax: (818) 781-8128

Client: Sprayco, Inc.  
Project Name: N/A  
Project #: N/A  
Matrix: Sludge  
Date Received: 08/23/90  
Date Analyzed: 08/27/90  
GSAS Job#: 5601

### Total Petroleum Hydrocarbons (8015m - Fuel Characterization)

Client Sample ID	GSAS Sample #	Fuel H.C. (mg/Kg)	Fuel Characterization	Hydrocarbon Range
1	GS-0890-381	1300	Petroleum Distillates	C6 - C30

Approved By: Dr. B. Gene Bennett

*Dr. B. Gene Bennett*

CSA JOB #: 5601

## LABORATORY JOB NUMBER: SJE

### SAMPLE COLLECTION INFORMATION

☐ Sample Box  
☐ Clarifier  
☐ Cleanout  
☒ Other:

☒ Grab  
☐ Composite-Timed With \_\_\_\_\_ minute intervals.  
☐ Composite-Flow With \_\_\_\_\_ gallon intervals.

Sample Grab or  
Composite Times:

Alt/or  
From 7:00 ☐ A.M.  
☒ P.M. 4:17 19 90  
Hr. Min. Month Day Year

To ☐ A.M.  
☐ P.M. 19  
Hr. Min. Month Day Year

Condition of Clarifier, Sample Box, Other Observations: wet, muddy, 75°F clear weather

## FIELD TEST RESULTS

pH \_\_\_\_\_ Flammability \_\_\_\_\_ Redox \_\_\_\_\_ Cyanide \_\_\_\_\_  
 Odor \_\_\_\_\_ Other \_\_\_\_\_ Other \_\_\_\_\_  
 Sulfide \_\_\_\_\_ Other \_\_\_\_\_ Other \_\_\_\_\_

**NOTES TO ANALYSTS:**

### LABORATORY INFORMATION

Location Code: ☐ TS14R03 LACHD ☐ TS14R06 LAC SHERIFF ☐ TS14R03 LA CITY ATTORNEY ☐ TS14R04 CA DOHS ☐ TS14R07 CHP ☐ TS14R10 LAC D.A.  
Accounting Charges: ☐ TS14R05 LA CITY ☐ TS14R08 LAC FIRE ☐ TS14035 LACSD  
B5 \_\_\_\_\_  
Type: SFS  
Report To: BAIRD  
Logged-In By: \_\_\_\_\_

## LABORATORY TESTS

### Check Tests Requested

Other \_\_\_\_\_

↓	CONSTITUENT	RESULTS	CODE
	pH		101
	TOTAL CYANIDE, mg/l CN		208
	TOTAL ARSENIC, mg/l As		705
	TOTAL CADMIUM, mg/l Cd		708
	TOTAL CHROMIUM, mg/l Cr		709
	TOTAL COPPER, mg/l Cu		712
	TOTAL LEAD, mg/l Pb		714
	TOTAL MERCURY, mg/l Hg		717
	TOTAL NICKEL, mg/l Ni		718
	TOTAL SILVER, mg/l Ag		722
	TOTAL ZINC, mg/l Zn		724
	FLASH POINT °C		105
	TOTAL PHENOLS, mg/l C <sub>6</sub> H <sub>5</sub> OH		312
	OIL AND GREASE, mg/l		408

[illegible]

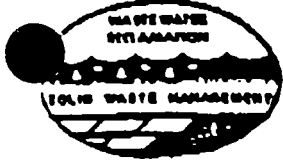
## CUSTODY RECORD

Relinquished by: (Signature) <i>[Signature]</i>	Time/Date 7:15   8-17-90	Received by: (Signature) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Time/Date 10:10   8-23-90	Received by: (Signature) <i>[Signature]</i>
Relinquished by: (Signature)	Time/Date	Received by: (Signature)
Relinquished by: (Signature)	Time/Date	Received by: (Signature)
Relinquished by: (Signature)	Time/Date	Received by: (Signature)
Relinquished by: (Signature)	Time/Date	Received by: (Signature)



**EXHIBIT G**

Rec'd 4-4-91



# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1965 Workman Mill Road, Whittier, California  
Mailing Address: P.O. Box 4998, Whittier, California 90607  
Telephone: (213) 699-0405, From Los Angeles (213) 685-6217

**FAX #(213) 699-3368**

Date:

## FAX TRANSMITTAL

TO : STAN TOWNSEND  
(Individual)

LAC HO  
(Organization)

FROM : STEVE CARR  
(Individual)

NUMBER OF PAGES (INCLUDING THIS PAGE) 8

MESSAGE: Sample 00897 was not analyzed because of the matrix - (sample  
was newspaper, bags + a stick)

Operations  
And  
Maintenance  
7-7-89

Sprayco  
SJE 00895, 00896, 00898  
Sampled : 08/17/90  
Analyzed: 01/14/91

County Sanitation Districts of Los Angeles  
San Jose Creek Water Quality Laboratory  
T814R03 B798

Samples SJE00895, SJE00896, and SJE00898 were analyzed for volatile halocarbons and aromatics using EPA methods 8010 and 8020. The headspace of the samples had been screened previously by GC/MS. The compounds of the 8010/8020 series that were identified were quantitated using Varian 3400 gas chromatographs along with purge and trap techniques. The two gas chromatographs used for the analyses had electrolytic conductivity detectors (halogen mode) and photoionization detectors (10.0 eV lamps). Supelco VOCOL columns were used for the chromatographic separations. The systems were calibrated and blanks were analyzed prior to analyzing the samples. Surrogate compounds (bromochloromethane, fluorobenzene, and bromobenzene) were added to the samples to verify the proper operation of the instrumentation.

Sample SJE00895 Sample 3A - A grey liquid sludge-like material.

Compound	mg/kg	Quantitation limit
Methylene chloride	150	2.0 mg/kg
1,1,1-Trichloroethane	1,700	2.0
Tetrachloroethylene	200	2.0
Toluene	1,500 *	2.0

\* Average of two analyses

Sample SJE00896 Sample 4A - A grey liquid.

Compound	mg/L	Quantitation limit
Toluene *	3,100 *	100 mg/L

\* Average of two analyses

Sample SJE00898 Sample 6A - A sticky blue/black substance.

Compound	mg/kg	Quantitation limit
1,1,1-Trichloroethane	30 * #	2.0 mg/kg
Toluene	5,200 *	5.0
Ethylbenzene	2,800 %	5.0
p+m-Xylene	8,300 *	5.0
o-Xylene	1,100 %	5.0

\* Average of two analyses % Average of three analyses

# Level too low to be confirmed by GC/MS headspace analysis

Analyzed by: Michael Szota

Approved by: Elly Cahill

CHANGE

SJC WQL TEST RESULT ENTRY

01/16/91

LAB JOB NO.: SJX00893  
CHARGE NO. 1: TS14R03B798 2: TS00000B000 3: ES00000B000  
REQUESTED BY: B. JONES  
COMPOSITE SAMPLE DATE AND TIME FROM: 08/17/90 19:00 TO: 08/17/90 21:30  
SAMPLE LOCATION: 3 - IW03 - 000 TYPE: SFS VOLUME: LITER  
DESCRIPTION: SPRAYCO, 12600 SAJICOU ST., SOUTH N. HOLLYWOOD 81790MG-1A  
RPT APPROVED BY: RB RPT COMPLETION DATE: 10/05/90

TEST	DESCRIPTION	SIGN	RESULT	CODE	UNIT	NOTE	UNIT
1: 170 - NO TEST REQUESTED		-				34	NONE
2: 601 - METHYLENE CHLORIDE			660000	*	1	3	MG/L
3: 621 - TOLUENE			24000	*	1	3	MG/L

-----  
Type in information and hit <ENTER> key.

PF: 2=Process Menu 3=Function Menu 8=Notes To User(N) 9=Sign Off

CHANGE

SJC WQL TEST RESULT ENTRY

01/16/91

LAB JOB NO.: SJO00894  
 CHARGE NO. 1: TS14R03B798 2: TS00000B000 3: ES00000B000  
 REQUESTED BY: B. JONES  
 COMPOSITE SAMPLE DATE AND TIME FROM: 08/17/90 19:00 TO: 08/17/90 21:30  
 SAMPLE LOCATION: 3 - IW03 - 000 TYPE: SPS VOLUME: LITER  
 DESCRIPTION: SPRAYCO, 12600 SAJICOU ST., SOUTH W. HOLLYWOOD 81790MG-2A  
 RPT APPROVED BY: RPT COMPLETION DATE:

TEST	DESCRIPTION	TEST SIGN	RESULT	VERIFY CODE	NEW UNIT	FOOT NOTE	UNIT
1: 170	- NO TEST REQUESTED					34	NONE
2: 601	- METHYLENE CHLORIDE	<	5.0	*	4		MG/KG
3: 708	- CADMIUM			*			MG/L CD
4: 709	- TOTAL CHROMIUM			*			MG/L CR
5: 712	- COPPER			*			MG/L CU
6: 714	- LEAD			*			MG/L PB
7: 718	- NICKEL			*			MG/L NI

Type in information and hit <ENTER> key.

PF: 2=Process Menu 3=Function Menu 5=Forward 8=Notes To User(N) 9=Sign Off

CHANGE

SJC WQL TEST RESULT ENTRY

01/16/91

LAB JOB NO.: SJE00895  
CHARGE NO. 1: TS14R03B798 2: TS000000B000 3: ES000000B000  
REQUESTED BY: B. JONES  
COMPOSITE SAMPLE DATE AND TIME FROM: 08/17/90 19:00 TO: 08/17/90 21:30  
SAMPLE LOCATION: 3 - IW03 - 000 TYPE: SPS VOLUME: LITER  
DESCRIPTION: SPRAYCO, 12600 SAJICOU ST., SOUTH N. HOLLYWOOD 81790MG-3A  
RPT APPROVED BY: RB RPT COMPLETION DATE: 10/05/90

TEST	DESCRIPTION	SIGN	RESULT	CODE	UNIT	NOTE	UNIT
1: 170	- NO TEST REQUESTED	-				34	NONE
2: 601	- METHYLENE CHLORIDE		150	*	4		MG/KG
3: 603	- 1,1,1-TRICHLOROETHANE		1700	*	4		MG/KG
4: 607	- TETRACHLOROETHYLENE		200	*	4		MG/KG
5: 621	- TOLUENE		1500	*	4		MG/KG

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Type in information and hit <ENTER> key.

PF: 2=Process Menu 3=Function Menu 8=Notes To User(N) 9=Sign Off

CHANGE

SJC WQL TEST RESULT ENTRY

01/16/91

LAB JOB NO.: SJE00898  
CHARGE NO. 1: TS14R03B798 2: TS00000B000 3: ES00000B000  
REQUESTED BY: B. JONES  
COMPOSITE SAMPLE DATE AND TIME FROM: 08/17/90 19:00 TO: 08/17/90 21:30  
SAMPLE LOCATION: 3 - IW03 - 000 TYPE: SFS VOLUME: LITER  
DESCRIPTION: SPRAYCO, 12600 SAJICOU ST., SOUTH N. HOLLYWOOD 91790MG-6A  
RPT APPROVED BY: RB RPT COMPLETION DATE: 10/05/90

TEST	DESCRIPTION	TEST SIGN	RESULT	VERIFY CODE	NEW UNIT	FOOT NOTE	UNIT
1: 170 -	NO TEST REQUESTED	-				34	NONE
2: 621 -	TOLUENE		5200	*	4		MG/KG
3: 624 -	ETHYL BENZENE		2800	*	4		MG/KG
4: 629 -	O-XYLENE		1100	*	4		MG/KG
5: 695 -	M+P-XYLENE		8300	*	4		MG/KG

-----  
Type in information and hit <ENTER> key.

PF: 2=Process Menu 3=Function Menu 8=Notes To User(N) 9=Sign Off



Sprayco  
SJE 00893, SJE 00894  
Sampled 08/17/90  
Analysed 01/14/91  
TS14R03 B798

01/15/91

Samples SJE 00893 and SJE 00894 were analysed for volatile halogenated hydrocarbons and aromatic hydrocarbons using EPA methods 8010 and 8020. The headspace of the samples had been screened previously by GC/MS. The compounds that were identified were quantitated using VARIAN 3400 gas chromatographs along with purge and trap techniques. The two gas chromatographs used for the analyses had electrolytic conductivity detectors (halogen mode) and photoionization detectors (with 10.0 eV lamps). A Supelco VOCOL column and a J&W DB-624 column were used for the chromatographic separations. The systems were calibrated and blanks were analysed prior to analysing the samples. Surrogate compounds (bromochloromethane, fluorobenzene and bromobenzene) were added to the samples analysed using the VOCOL column, while methylcyclohexane, bromochloromethane and 1,4-dichlorobutane were added to the samples analysed with the DB-624 column to verify the proper operation of the instrumentation and be used for quantitation.

1) Sample SJE 00893 Sample 1A - a grey liquid sample

The compounds were present at the following concentrations:

Compound	mg/L	Quantitation limit
Methylene chloride	660,000 *	16,000 mg/L
Toluene	24,000 *	6,200 mg/L

\* The results are average of two analyses

2) Sample SJE 00894 Sample 2A - a black sludge-like material

All the compounds are below the quantitation limit of 5.0 mg/kg.

Analysed by: 34.2/91 1/15/91

Approved by: 1/15/91

EXHIBIT H

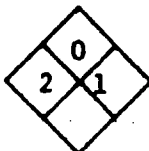
# Rho-Chem

Rho-Chem Corporation  
425 Isis Avenue  
Inglewood, CA 90301

# MATERIAL SAFETY DATA SHEET

Essentially similar to OSHA Form 20  
REV. 082279

## SECTION I. PRODUCT IDENTIFICATION

PRODUCT NAME	Methylene Chloride	STOCK NO.	2407 Reconstituted 2007 Technical Grade 2357 Electronic/Semiconductor 3357 Reagent A.C.S. Grade
CHEMICAL NAME AND SYNONYMS	Dichloromethane	FORMULA	CH <sub>2</sub> Cl <sub>2</sub>
CHEMICAL FAMILY	Chlorinated hydrocarbon CAS# 75092	EMERGENCY PHONE NO.	(213) 776-6233
NATIONAL FIRE PROTECTION ASSOCIATION HAZARD IDENTIFICATION		AIR QUALITY MANAGEMENT DISTRICT PHOTOCHEMICAL REACTIVITY  Non-photochemically reactive (less than 4%)	DEPARTMENT OF TRANSPORTATION HAZARD CLASS  ORM-A

## SECTION II. HAZARDOUS INGREDIENTS

MATERIAL	TLV (UNITS)	%	MATERIAL	TLV (UNITS)	%
Methylene Chloride	100	100			

## SECTION III. PHYSICAL DATA

BOILING POINT ONE atm.	104°F	FREEZING POINT	-142°F
SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.320 @ 25/25°C	VAPOR PRESSURE AT 20°C	352.1 mm Hg
VAPOR DENSITY (AIR = 1)	2.93	SOLUBILITY IN WATER % BY WT AT 20°C	0.198
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE	147 (CCl <sub>4</sub> =100)
APPEARANCE	Colorless liquid	ODOR	Somewhat ethereal

## SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD)	None (T.O.C.)	FLAMMABLE LIMITS IN AIR (% BY VOLUME)	Upper: 19 (in air) Lower: 12 (in air)
AUTOIGNITION TEMPERATURE	1033°F		
EXTINGUISHING MEDIA	Its presence in a fire does not hinder the use of any standard extinguishing media.		
SPECIAL FIREFIGHTING PROCEDURES	Wear self contained breathing apparatus approved by NIOSH. Use water spray to knock down vapors and to cool containers.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Vapors exposed to high temperatures that occur in open flames, welding arcs, and open electric heaters decompose to give off hydrogen chloride and other toxic and irritating vapors.		

025009

## SECTION V. HEALTH HAZARD A

THRESHOLD LIMIT VALUE	200ppm	MAXIMUM CONCENTRATION PER DURATION LEVEL	1000ppm/5 minutes in 2 hours
EFFECTS OF OVER EXPOSURE	<p><u>Eyes</u> - can cause severe irritation, redness, tearing, blurred vision.</p> <p><u>Skin</u> - prolonged or repeated contact can cause moderate irritation, defatting, dermatitis. <u>Breathing</u> - excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation. <u>Swallowing</u> - can cause gastrointestinal irritation, nausea, vomiting, diarrhea.</p>		
EMERGENCY AND FIRST AID PROCEDURES	<p><u>Eyes</u> - flush with large amounts of water. <u>Skin</u> - thoroughly wash exposed area with soap and water. Remove contaminated clothing and launder before re-use.</p> <p><u>Breathing</u> - if affected remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Do not give stimulants. Epinephrine or ephedrine may adversely affect the heart with fatal results. <u>Swallowed</u> - induce vomiting. <u>Never</u> give anything by mouth to an unconscious person.</p>		

## SECTION VI. REACTIVITY DATA

STABILITY	<input type="checkbox"/> Unstable <input checked="" type="checkbox"/> Stable	<input type="checkbox"/> Hazardous Polymerization <input checked="" type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur
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## SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Absorb liquid on rags, mops, or floor absorbent and place in closed containers. Provide adequate ventilation and wear adequate personal protective equipment.
WASTE DISPOSAL METHOD	Make arrangements through a permitted TSD (Transport Storage & Disposal) facility.

## SECTION VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	None for normal use. NIOSH/MESA approved self-contained breathing apparatus, positive pressure hose masks, air-line mask for spills or extreme conditions.		
VENTILATION	Provide sufficient mechanical and/or local exhaust ventilation to maintain exposure below threshold limit value.		
PROTECTIVE GLOVES	Polyvinyl alcohol, polyethylene	EYE PROTECTION Chemical safety goggles	OTHER PROTECTIVE EQUIPMENT Rubber apron

## SECTION IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store drums in a cool place, bung up and tightly closed. Empty containers continue to be hazardous because they retain product residues; vapor or liquid. Storage tanks should be adequately vented for filling and pressure equalization. Vents from indoor tanks should terminate outdoors. Avoid contact with strong oxidizing agents (nitric acid, permanganates, etc.), strong alkalies (sodium hydroxide, ammonium hydroxide, etc.) and alkali metal.
OTHER PRECAUTIONS	If product is used in a vapor degreaser: DO NOT POUR COLD SOLVENT INTO BOILING SOLVENT. A violent eruption may occur similar to the reaction of cold water poured into hot oil or grease. Severe body and facial burns and/or fire may occur. Add cold solvent in the morning before degreaser start-up. DO NOT EXCEED RECOMMENDED CLEAN-OUT TEMPERATURE or recommended clean-out specific gravity. Solvent decomposition or auto ignition of combustible contaminants may occur.

**M A T E R I A L S A F E T Y D A T A S H E E T**  
Benco Sales, Inc., P. O. Box 1215, Crossville, In. 38557  
Emergency Phone: 615-484-9578

**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER**

**1. PRODUCT INFORMATION:**

General or Generic ID: Chlorinated Hydrocarbon, Alcohol Blend  
Trade Name: Benco #B7  
Hazard Classification: Corrosive Liquid  
DOT Shipping Name: Paint Related Material, Corrosive Liquid, NA1760

**2. HAZARDOUS COMPONENTS:**

INGREDIENT	PEL (ACGIH)	(OSHA)
Methylene Chloride	50 ppm	500 ppm
Methanol	200 ppm	200 ppm
Biodegradable Wetting Agents & Wax	N/A	N/A

Note: Methylene Chloride and Methanol are subject to reporting requirements of Section 313 of Title II of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40CFR Part 372, which apply to businesses with 10 or more employees. Please call Benco regarding reporting quantities at 800-854-4874.

**3. PHYSICAL DATA:**

Boiling Point (Initial): 104 F	Vapor Pressure: <300 mm Hg
Vapor Density: 2.93 (air = 1)	Solubility in Water: Emulsifies
Specific Gravity: 1.180	Percent Volatile by Volume: 95%
Appearance: Colorless liquid	Odor: Typical Methylene Chloride
VOC content: 244 grams/liter	

**4. FIRE AND EXPLOSION HAZARD DATA:**

Flash Point: None to boiling point  
Flammable Limits: LFL: Unknown UFL: Unknown  
Extinguishing Media: Water fog  
Fire & Explosion Hazards: May form flammable vapor-air mixtures at temperatures above ambient. Lower temperatures increase the difficulty of ignition.  
Fire-fighting Equipment: Wear positive pressure self contained respiratory equipment due to thermal decomposition products

**5. HEALTH HAZARD DATA:**

**EFFECTS OF OVEREXPOSURE:**

Eyes: Can cause severe irritation and slight corneal injury. Vapors may also irritate eyes. Injury intensifies with extended contact.

Skin: Prolonged or repeated exposure will cause a burn. The burn will intensify with repeated contact.

Skin Absorption: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

Ingestion: Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, and even death. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

Inhalation: Major route of potential exposure. Methylene Chloride depresses the central nervous system. Concentrations between 900-1,000 ppm may cause dizziness or drunkenness. Nausea, headache, and vomiting can occur at concentrations above 2,000 ppm. At 7,000 ppm, numbness and tingling in arms and legs and rapid heartbeat have occurred. Loss of consciousness and death have occurred at levels above 9,000 ppm, if exposure is prolonged. Carboxyhemoglobin levels can be elevated in persons exposed to methylene chloride and can cause a substantial stress on the cardiovascular system. This elevation can be additive to the increase caused by smoking and other carbon monoxide sources.

Medical Conditions Aggravated By Exposure: Alcoholism, acute and chronic liver disease, chronic lung disease, anemia, coronary disease or rhythm disorders of the heart.

Notices: Reports have associated repeated and prolonged overexposure to solvents to permanent brain and nervous system damage. Persons thought to have heart or respiratory problems should seek medical advice before using solvents of any kind. If signs of allergy develop (breathing difficulty, eye itching, prolonged itching and redness of the skin, headaches, dizziness, etc.) discontinue use of this product immediately and consult a physician. Drinking alcohol before, during, or after exposure to solvents may cause undesirable effects.

**MATERIAL SAFETY DATA SHEET**  
Benco Sales, Inc., P.O. Box 1215, Crossville, In. 38557  
Emergency Phone: 615-484-9578

**PRODUCT NAME: Benco #B7 INDUSTRIAL PAINT REMOVER-Page 2**

**FIRST AID:**

**Eyes:** Flush with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.  
**Skin:** Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.  
**Ingestion:** Call physician, poison control center, or hospital emergency room **IMMEDIATELY**.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.  
**NOTE TO PHYSICIAN:** Adrenalin should never be given to a person overexposed to methylene chloride.

**TOXICITY:**

**Chronic Toxicity:** The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans. Overexposure should be avoided, failure to do so could result in injury, illness or even death.

Chronic overexposures to methylene chloride have caused liver and kidney toxic effects in experimental animals.

**Carcinogenicity:** Methylene Chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000, and 4,000 ppm increased the incidence of malignant liver and lung tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in female rats at concentrations of 500 ppm and above and increases in benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250 mg/kg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500 ppm lifetime did not show an increased incidence of tumors. The International Agency for Research on Cancer (IARC) has concluded that there is sufficient evidence for the carcinogenicity of methylene chloride to experimental animals, and inadequate evidence for the carcinogenicity of methylene chloride to humans, resulting in a classification as a 2B animal carcinogen. The NTP has identified methylene chloride as an animal carcinogen. Methylene chloride is listed on the IARC and NTP carcinogen lists but not by OSHA. The State of California has listed methylene chloride under Proposition 65 as a chemical known to the state to cause cancer. Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace for a minimum of 20 years did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

**Reproductive Toxicity:** Reproductive toxicity tests have been conducted to evaluate the adverse effects methylene chloride may have on reproduction and offspring of laboratory animals. The results indicate that methylene chloride does not cause birth defects in laboratory animals.

**6. REACTIVITY DATA:**

**Hazardous Polymerization:** Can not occur.

**Stability:** Stable

**Incompatibility:** Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products:** Open flames or welding arcs can cause thermal degradation with the evolution of hydrogen chloride and very small amounts of phosgene and chlorine.

**7. SPILL OR LEAK PROCEDURES:**

**Action to Take for Spills or Leaks:**

**Small Spills:** mop up, wipe up, or soak up immediately. Remove to out of doors.

**Large Spills:** evacuate area. Contain liquid and transfer to closed metal or high density polyethylene containers. Avoid contamination of ground and surface waters. If spill occurs indoors, turn off air conditioning and/or heating system to prevent vapors from

**MATERIAL SAFETY DATA SHEET**  
Benco Sales, Inc., P.O. Box 1215, Crossville, TN. 38557  
Emergency Phone: 615-484-9578

**PRODUCT NAME: BENCO #87 INDUSTRIAL PAINT REMOVER-Page 3**

**Disposal Method:** Evaporate small quantities in compliance with local, state, and federal regulations. Large quantities may be sent to a licensed reclaimer. Contaminated absorbent material or any contaminated solids are considered hazardous waste and must be disposed of at an approved landfill or incinerator in compliance with local, state and federal regulations. Do not dispose of this material or any waste residue of this material into septic systems, storm drains, or directly onto the ground.

**B. HANDLING PRECAUTIONS:**

**Exposure Guideline:** ACGIH TWA is 50 ppm. OSHA TWA is 500 ppm.

**Ventilation:** Controlling airborne concentrations below the ACGIH TLV exposure guideline is recommended. Use only with adequate ventilation. Local exhaust ventilation is necessary for most operations. Lethal concentrations may exist in areas with poor ventilation.

**Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. If this level is exceeded, use an approved air purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus.

**Skin Protection:** Wear chemical resistant rubber gloves, apron, boots, and plastic arm sleeves.

**Eye Protection:** Use safety glasses. Where contact is likely use chemical splash goggles.

**Hygiene:** Avoid contact with skin and avoid breathing vapors. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom. Any clothing or shoes that have been contaminated should be removed immediately and thoroughly laundered before wearing again.

**Safety Shower and Eyewash Station** should be available in work area.

**ADDITIONAL INFORMATION:**

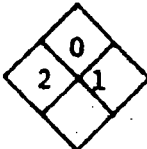
**Special precautions to be taken in Handling and Storage:** Exercise reasonable care and caution. Avoid breathing vapors. Store in a cool place out of direct sunlight. Concentrated vapors of this product are heavier than air and will collect in low areas such as pits and degreasers, storage tanks, and other confined areas. Do not enter those areas where vapors of this product are suspected unless special breathing apparatus is used and an observer is present for assistance. Do not use this product in a tank or vat where the product level is lower than 12" from the top of the tank. Lethal concentrations of vapors occur in tanks and every effort should be made to keep from breathing near or below the top level of the tank.

Do not pressure product out of container with air. When opening drum, open bung partially and vent any accumulated pressure before removing bung completely. Empty product containers may contain liquid or vapor residues of this product. All precautions suggested in this data sheet apply to empty containers also. Empty containers are property of Benco Sales, Inc. and should not be sold to individuals or other parties. Do not repackage this product for resale. Any product purchased for resale must have this MSDS attached to each container and must be in original container. If each container does not have an MSDS, call Benco at 800-854-4874. Do not use this product in areas where contact of vapors with gas flames or hot electric elements can occur. Please call Benco at 800-854-4874 for advice on proper heating systems. Contact with flames or electric elements can produce hydrochloric acid and phosgene fumes which can be fatal. Overexposure to this product can raise the level of carbon monoxide in the blood causing cardiovascular stress. Do not remove or deface labels off containers.

This Material Safety Data Sheet supersedes any previous Material Safety Data Sheet on this product. Effective date: MARCH 16, 1990.

The information accumulated herein is given in good faith and believed to be accurate, but no warranty, expressed or implied, of merchantability, fitness, or otherwise is made. The suggested procedures are based on experience as of the date of publication. They are not inclusive nor fully adequate in every circumstance. Consult Benco Sales, Inc., for proper handling procedures in specific situations or for any other further information.

### SECTION I. PRODUCT IDENTIFICATION

PRODUCT NAME	Methylene Chloride	STOCK NO.	2407 Reconstituted 2007 Technical Grade 2357 Electronic/Semiconductor 3357 Reagent A.C.S. Grade
CHEMICAL NAME AND SYNONYMS	Dichloromethane	FORMULA	CH <sub>2</sub> Cl <sub>2</sub>
CHEMICAL FAMILY	Chlorinated hydrocarbon CAS# 75092	EMERGENCY PHONE NO.	(213) 776-6233
NATIONAL FIRE PROTECTION ASSOCIATION HAZARD IDENTIFICATION		AIR QUALITY MANAGEMENT DISTRICT PHOTOCHEMICAL REACTIVITY  Non-photochemically reactive (less than 4%)	DEPARTMENT OF TRANSPORTATION HAZARD CLASS  ORM-A

### SECTION II. HAZARDOUS INGREDIENTS

MATERIAL	TLV (UNITS)	%	MATERIAL	TLV (UNITS)	%
Methylene Chloride	100	100			

### SECTION III. PHYSICAL DATA

BOILING POINT ONE atm.	104°F	FREEZING POINT	-142°F
SPECIFIC GRAVITY (20 = 1)	1.320 @ 25/25°C	VAPOR PRESSURE AT 20°C	352.1 mm Hg
VAPOR DENSITY (AIR = 1)	2.93	SOLUBILITY IN WATER % BY WT AT 20°C	0.198
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE	147 (CCl <sub>4</sub> =100)
APPEARANCE	Colorless liquid	ODOR	Somewhat ethereal

### SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD)	None (T.O.C.)	FLAMMABLE LIMITS IN AIR (% BY VOLUME)	Upper: 19 (in air) Lower: 12 (in air)
AUTOIGNITION TEMPERATURE	1033°F		
EXTINGUISHING MEDIA	Its presence in a fire does not hinder the use of any standard extinguishing media.		
SPECIAL FIREFIGHTING PROCEDURES	Wear self contained breathing apparatus approved by NIOSH. Use water spray to knock down vapors and to cool containers.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Vapors exposed to high temperatures that occur in open flames, welding arcs, and open electric heaters decompose to give off hydrogen chloride and other toxic and irritating vapors.		



## SECTION V. HEALTH HAZARD

A

THRESHOLD LIMIT VALUE	200ppm	MAXIMUM CONCENTRATION PER DURATION LEVEL	1000ppm/5 minutes in 2 hours
EFFECTS OF OVER EXPOSURE	<p><u>Eyes</u> - can cause severe irritation, redness, tearing, blurred vision.  <u>Skin</u> - prolonged or repeated contact can cause moderate irritation, defatting, dermatitis. <u>Breathing</u> - excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation. <u>Swallowing</u> - can cause gastrointestinal irritation, nausea, vomiting, diarrhea.</p>		
EMERGENCY AND FIRST AID PROCEDURES	<p><u>Eyes</u> - flush with large amounts of water. <u>Skin</u> - thoroughly wash exposed area with soap and water. Remove contaminated clothing and launder before re-use. <u>Breathing</u> - if affected remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Do not give stimulants. Epinephrine or ephedrine may adversely affect the heart with fatal results. <u>Swallowed</u> - induce vomiting. <u>Never</u> give anything by mouth to an unconscious person.</p>		

## SECTION VI. REACTIVITY DATA

STABILITY	_____ Unstable _____ <input checked="" type="checkbox"/> Stable	Hazardous Polymerization	_____ May Occur <input checked="" type="checkbox"/> Will Not Occur
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## SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Absorb liquid on rags, mops, or floor absorbent and place in closed containers. Provide adequate ventilation and wear adequate personal protective equipment.
WASTE DISPOSAL METHOD	Make arrangements through a permitted TSD (Transport Storage & Disposal) facility.

## SECTION VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	None for normal use. NIOSH/MESA approved self-contained breathing apparatus, positive pressure hose masks, air-line mask for spills or extreme conditions.		
VENTILATION	Provide sufficient mechanical and/or local exhaust ventilation to maintain exposure below threshold limit value.		
PROTECTIVE GLOVES	Polyvinyl alcohol, polyethylene	EYE PROTECTION Chemical safety goggles	OTHER PROTECTIVE EQUIPMENT Rubber apron

## SECTION IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store drums in a cool place, bung up and tightly closed. Empty containers continue to be hazardous because they retain product residues; vapor or liquid. Storage tanks should be adequately vented for filling and pressure equalization. Vents from indoor tanks should terminate outdoors. Avoid contact with strong oxidizing agents (nitric acid, permanganates, etc.), strong alkalies (sodium hydroxide, ammonium hydroxide, etc.) and alkali metals.
OTHER PRECAUTIONS	If product is used in a vapor degreaser: DO NOT POUR COLD SOLVENT INTO BOILING SOLVENT. A violent eruption may occur similar to the reaction of cold water poured into hot oil or grease. Severe body and facial burns and/or fire may occur. Add cold solvent in the morning before degreaser start-up. DO NOT EXCEED RECOMMENDED CLEAN-OUT TEMPERATURE or recommended clean-out specific gravity. Solvent decomposition or auto ignition of combustible contaminants may occur.

**M A T E R I A L S A F E T Y D A T A S H E E T**  
Benco Sales, Inc., P. O. Box 1215, Crossville, In. 38557  
Emergency Phone: 615-484-9578

**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER**

**1. PRODUCT INFORMATION:**

General or Generic ID: Chlorinated Hydrocarbon, Alcohol Blend  
Trade Name: Benco #B7  
Hazard Classification: Corrosive Liquid  
DOT Shipping Name: Paint Related Material, Corrosive Liquid, NA1760

**2. HAZARDOUS COMPONENTS:**

INGREDIENT	PEL (ACGIH)	(OSHA)
Methylene Chloride	50 ppm	500 ppm
Methanol	200 ppm	200 ppm
Biodegradable Wetting Agents & Wax	N/A	N/A

Note: Methylene Chloride and Methanol are subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40CFR Part 372, which apply to businesses with 10 or more employees. Please call Benco regarding reporting quantities at 800-854-4874.

**3. PHYSICAL DATA:**

Boiling Point (Initial): 104 F	Vapor Pressure: <300 mm Hg
Vapor Density: 2.93 (air = 1)	Solubility in Water: Emulsifies
Specific Gravity: 1.180	Percent Volatile by Volume: 95%
Appearance: Colorless liquid	Odor: Typical Methylene Chloride
VOC content: 244 grams/liter	

**4. FIRE AND EXPLOSION HAZARD DATA:**

Flash Point: None to boiling point  
Flammable Limits: LFL: Unknown UFL: Unknown  
Extinguishing Media: Water fog  
Fire & Explosion Hazards: May form flammable vapor-air mixtures at temperatures above ambient. Lower temperatures increase the difficulty of ignition.  
Fire-fighting Equipment: Wear positive pressure self contained respiratory equipment due to thermal decomposition products

**5. HEALTH HAZARD DATA:**

**EFFECTS OF OVEREXPOSURE:**

Eyes: Can cause severe irritation and slight corneal injury. Vapors may also irritate eyes. Injury intensifies with extended contact.

Skin: Prolonged or repeated exposure will cause a burn. The burn will intensify with repeated contact.

Skin Absorption: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

Ingestion: Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, and even death. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

Inhalation: Major route of potential exposure. Methylene Chloride depresses the central nervous system. Concentrations between 900-1,000 ppm may cause dizziness or drunkenness. Nausea, headache, and vomiting can occur at concentrations above 2,000 ppm. At 7,000 ppm, numbness and tingling in arms and legs and rapid heartbeat have occurred. Loss of consciousness and death have occurred at levels above 9,000 ppm, if exposure is prolonged. Carboxyhemoglobin levels can be elevated in persons exposed to methylene chloride and can cause a substantial stress on the cardiovascular system. This elevation can be additive to the increase caused by smoking and other carbon monoxide sources.

Medical Conditions Aggravated By Exposure: Alcoholism, acute and chronic liver disease, chronic lung disease, anemia, coronary disease or rhythm disorders of the heart.

Notice: Reports have associated repeated and prolonged overexposure to solvents to permanent brain and nervous system damage. Persons thought to have heart or respiratory problems should seek medical advice before using solvents of any kind. If signs of allergy develop (breathing difficulty, eye itching, prolonged itching and redness of the skin, headaches, dizziness, etc.) discontinue use of this product immediately and consult a physician. Drinking alcohol before, during, or after exposure to solvents may cause undesirable effects.

**MATERIAL SAFETY DATA SHEET**  
Benco Sales, Inc., P.O. Box 1215, Crossville, TN. 38557  
Emergency Phone: 615-484-9378

**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER-Page 2**

**FIRST AID:**

**Eyes:** Flush with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.  
**Skin:** Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.  
**Ingestion:** Call physician, poison control center, or hospital emergency room **IMMEDIATELY**.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.  
**NOTE TO PHYSICIAN:** Adrenalin should never be given to a person overexposed to methylene chloride.

**TOXICITY:**

**Chronic Toxicity:** The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans. Overexposure should be avoided, failure to do so could result in injury, illness or even death.

Chronic overexposures to methylene chloride have caused liver and kidney toxic effects in experimental animals.

**Carcinogenicity:** Methylene Chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000, and 4,000 ppm increased the incidence of malignant liver and lung tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in female rats at concentrations of 500 ppm and above and increases in benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250 mg/kg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500 ppm lifetime did not show an increased incidence of tumors. The International Agency for Research on Cancer (IARC) has concluded that there is sufficient evidence for the carcinogenicity of methylene chloride to experimental animals, and inadequate evidence for the carcinogenicity of methylene chloride to humans, resulting in a classification as a 2B animal carcinogen. The NTP has identified methylene chloride as an animal carcinogen. Methylene chloride is listed on the IARC and NTP carcinogen lists but not by OSHA. The State of California has listed methylene chloride under Proposition 65 as a chemical known to the state to cause cancer. Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace for a minimum of 20 years did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

**Reproductive Toxicity:** Reproductive toxicity tests have been conducted to evaluate the adverse effects methylene chloride may have on reproduction and offspring of laboratory animals. The results indicate that methylene chloride does not cause birth defects in laboratory animals.

**6. REACTIVITY DATA:**

**Hazardous Polymerization:** Can not occur.

**Stability:** Stable

**Incompatibility:** Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products:** Open flames or welding arcs can cause thermal degradation with the evolution of hydrogen chloride and very small amounts of phosgene and chlorine.

**7. SPILL OR LEAK PROCEDURES:**

**Action to Take for Spills or Leaks:**

**Small Spills:** mop up, wipe up, or soak up immediately. Remove to out of doors.

**Large Spills:** evacuate area. Contain liquid and transfer to closed metal or high density polyethylene containers. Avoid contamination of ground and surface waters. If spill occurs indoors, turn off air conditioning and/or heating system to prevent vapors from

**M A T E R I A L S A F E T Y D A T A S H E E T**  
Benco Sales, Inc., P.O. Box 1215, Crossville, In. 38557  
Emergency Phone: 615-484-9378

**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER-Page 3**

**Disposal Method:** Evaporate small quantities in compliance with local, state, and federal regulations. Large quantities may be sent to a licensed reclaimer. Contaminated absorbent material or any contaminated solids are considered hazardous waste and must be disposed of at an approved landfill or incinerator in compliance with local, state and federal regulations. Do not dispose of this material or any waste residue of this material into septic systems, storm drains, or directly onto the ground.

**B. HANDLING PRECAUTIONS:**

**Exposure Guideline:** ACGIH TWA is 50 ppm. OSHA TWA is 500 ppm.

**Ventilation:** Controlling airborne concentrations below the ACGIH TLV exposure guideline is recommended. Use only with adequate ventilation. Local exhaust ventilation is necessary for most operations. Lethal concentrations may exist in areas with poor ventilation.

**Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. If this level is exceeded, use an approved air purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus.

**Skin Protection:** Wear chemical resistant rubber gloves, apron, boots, and plastic arm sleeves.

**Eye Protection:** Use safety glasses. Where contact is likely use chemical splash goggles.

**Hygiene:** Avoid contact with skin and avoid breathing vapors. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom. Any clothing or shoes that have been contaminated should be removed immediately and thoroughly laundered before wearing again.

**Safety Shower and Eyewash Station** should be available in work area.

**ADDITIONAL INFORMATION:**

**Special precautions to be taken in Handling and Storage:** Exercise reasonable care and caution. Avoid breathing vapors. Store in a cool place out of direct sunlight. Concentrated vapors of this product are heavier than air and will collect in low areas such as pits and degreasers, storage tanks, and other confined areas. Do not enter those areas where vapors of this product are suspected unless special breathing apparatus is used and an observer is present for assistance. Do not use this product in a tank or vat where the product level is lower than 12" from the top of the tank. Lethal concentrations of vapors occur in tanks and every effort should be made to keep from breathing near or below the top level of the tank.

Do not pressure product out of container with air. When opening drum, open bung partially and vent any accumulated pressure before removing bung completely. Empty product containers may contain liquid or vapor residues of this product. All precautions suggested in this data sheet apply to empty containers also. Empty containers are property of Benco Sales, Inc. and should not be sold to individuals or other parties. Do not repackage this product for resale. Any product purchased for resale must have this MSDS attached to each container and must be in original container. If each container does not have an MSDS, call Benco at 800-854-4874. Do not use this product in areas where contact of vapors with gas flames or hot electric elements can occur. Please call Benco at 800-854-4874 for advice on proper heating systems. Contact with flames or electric elements can produce hydrochloric acid and phosgene fumes which can be fatal. Overexposure to this product can raise the level of carbon monoxide in the blood causing cardiovascular stress. Do not remove or deface labels off containers.

This Material Safety Data Sheet supercedes any previous Material Safety Data Sheet on this product. Effective date: MARCH 16, 1990.

Information accumulated herein is given in good faith and believed to be accurate, but no warranty, expressed or implied, of merchantability, fitness, or otherwise is made. The suggested procedures are based on experience as of the date of publication. They are not inclusive nor fully adequate in every circumstance. Consult Benco Sales, Inc., for proper handling procedures in specific situations or for any other further information.

DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES OVER 120 DEGREE FARENHEIT.

PRODUCT IS FOR USE AS A COLD CLEANING SOLVENT AT ROOM TEMPERATURE. DO NOT HEAT PRODUCT ABOVE ROOM TEMPERATURE WITH AN EXTERNAL HEAT SOURCE. FIRE OR EXPLOSION MAY OCCUR. DO NOT USE PRODUCT IN A VAPOR DEGREASING MACHINE, SOLVENT DECOMPOSITION AND/OR FIRE MAY OCCUR. USE OF THIS PRODUCT AS AN ATOMIZED SPRAY IS NOT RECOMMENDED. PRODUCT AEROSOLS MAY BE FLAMMABLE OR EXPLOSIVE.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

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THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE. SINCE THE ACTUAL USE OF THIS PRODUCT BY OTHERS IS BEYOND THE CONTROL OF RHO-CHEM CORPORATION, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THIS PRODUCT.

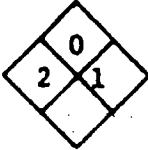
# Rho-Chem

Rho-Chem Corporation  
425 Isis Avenue  
Inglewood, CA 90301

# MATERIAL SAFETY DATA SHEET

Essentially similar to OSHA Form 20  
REV. 082279

## SECTION I. PRODUCT IDENTIFICATION

PRODUCT NAME	Methylene Chloride	STOCK NO.	2407 Reconstituted 2007 Technical Grade 2357 Electronic/Semiconductor 3357 Reagent A.C.S. Grade
CHEMICAL NAME AND SYNONYMS	Dichloromethane	FORMULA	CH <sub>2</sub> Cl <sub>2</sub>
CHEMICAL FAMILY	Chlorinated hydrocarbon CAS# 75092	EMERGENCY PHONE NO.	(213) 776-6233
NATIONAL FIRE PROTECTION ASSOCIATION HAZARD IDENTIFICATION		AIR QUALITY MANAGEMENT DISTRICT PHOTOCHEMICAL REACTIVITY  Non-photochemically reactive (less than 4%)	DEPARTMENT OF TRANSPORTATION HAZARD CLASS  ORM-A

## SECTION II. HAZARDOUS INGREDIENTS

MATERIAL	TLV (UNITS)	%	MATERIAL	TLV (UNITS)	%
Methylene Chloride	100	100			

## SECTION III. PHYSICAL DATA

BOILING POINT ONE atm.	104°F	FREEZING POINT	-142°F
SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.320 @ 25/25°C	VAPOR PRESSURE AT 20°C	352.1 mm Hg
VAPOR DENSITY (AIR = 1)	2.93	SOLUBILITY IN WATER % BY WT AT 20°C	0.198
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE	147 (CCl <sub>4</sub> =100)
APPEARANCE	Colorless liquid	ODOR	Somewhat ethereal

## SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD)	None (T.O.C.)	FLAMMABLE LIMITS IN AIR (% BY VOLUME)	Upper: 19 (in air) Lower: 12 (in air)
AUTOIGNITION TEMPERATURE	1033°F		
EXTINGUISHING MEDIA	Its presence in a fire does not hinder the use of any standard extinguishing media.		
SPECIAL FIREFIGHTING PROCEDURES	Wear self contained breathing apparatus approved by NIOSH. Use water spray to knock down vapors and to cool containers.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Vapors exposed to high temperatures that occur in open flames, welding arcs, and open electric heaters decompose to give off hydrogen chloride and other toxic and irritating vapors.		

## SECTION V. HEALTH HAZARD .A

THRESHOLD LIMIT VALUE	200ppm	MAXIMUM CONCENTRATION PER DURATION LEVEL	1000ppm/5 minutes in 2 hours
EFFECTS OF OVER EXPOSURE	<p><u>Eyes</u> - can cause severe irritation, redness, tearing, blurred vision.  <u>Skin</u> - prolonged or repeated contact can cause moderate irritation, defatting, dermatitis. <u>Breathing</u> - excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation. <u>Swallowing</u> - can cause gastrointestinal irritation, nausea, vomiting, diarrhea.</p>		
EMERGENCY AND FIRST AID PROCEDURES	<p><u>Eyes</u> - flush with large amounts of water. <u>Skin</u> - thoroughly wash exposed area with soap and water. Remove contaminated clothing and launder before re-use. <u>Breathing</u> - if affected remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Do not give stimulants. Epinephrine or ephedrine may adversely affect the heart with fatal results. <u>Swallowed</u> - induce vomiting. <u>Never</u> give anything by mouth to an unconscious person.</p>		

## SECTION VI. REACTIVITY DATA

STABILITY	<input type="checkbox"/> Unstable <input checked="" type="checkbox"/> Stable	Hazardous Polymerization	<input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur
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## SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Absorb liquid on rags, mops, or floor absorbent and place in closed containers. Provide adequate ventilation and wear adequate personal protective equipment.
WASTE DISPOSAL METHOD	Make arrangements through a permitted TSD (Transport Storage & Disposal) facility.

## SECTION VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	None for normal use. NIOSH/MESA approved self-contained breathing apparatus, positive pressure hose masks, air-line mask for spills or extreme conditions.		
VENTILATION	Provide sufficient mechanical and/or local exhaust ventilation to maintain exposure below threshold limit value.		
PROTECTIVE GLOVES	Polyvinyl alcohol, polyethylene	EYE PROTECTION Chemical safety goggles	OTHER PROTECTIVE EQUIPMENT Rubber apron

## SECTION IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store drums in a cool place, bung up and tightly closed. Empty containers continue to be hazardous because they retain product residues; vapor or liquid. Storage tanks should be adequately vented for filling and pressure equalization. Vents from indoor tanks should terminate outdoors. Avoid contact with strong oxidizing agents (nitric acid, permanganates, etc.), strong alkalies (sodium hydroxide, ammonium hydroxide, etc.) and alkali metals.
OTHER PRECAUTIONS	If product is used in a vapor degreaser: DO NOT POUR COLD SOLVENT INTO BOILING SOLVENT. A violent eruption may occur similar to the reaction of cold water poured into hot oil or grease. Severe body and facial burns and/or fire may occur. Add cold solvent in the morning before degreaser start-up. DO NOT EXCEED RECOMMENDED CLEAN-OUT TEMPERATURE or recommended clean-out specific gravity. Solvent decomposition or auto ignition of combustible contaminants may occur.

**M A T E R I A L S A F E T Y D A T A S H E E T**  
Benco Sales, Inc., P. O. Box 1215, Crossville, In. 38557  
Emergency Phone: 615-484-9578

**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER**

**1. PRODUCT INFORMATION:**

General or Generic ID: Chlorinated Hydrocarbon, Alcohol Blend  
Trade Name: Benco #B7  
Hazard Classification: Corrosive Liquid  
DOT Shipping Name: Paint Related Material, Corrosive Liquid, NA1760

**2. HAZARDOUS COMPONENTS:**

INGREDIENT	PEL (ACGIH)	(OSHA)
Methylene Chloride	50 ppm	500 ppm
Methanol	200 ppm	200 ppm
Biodegradable Wetting Agents & Wax	N/A	N/A

Note: Methylene Chloride and Methanol are subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40CFR Part 372, which apply to businesses with 10 or more employees. Please call Benco regarding reporting quantities at 800-854-4874.

**3. PHYSICAL DATA:**

Boiling Point (Initial): 104 F	Vapor Pressure: <300 mm Hg
Vapor Density: 2.93 (air = 1)	Solubility in Water: Emulsifies
Specific Gravity: 1.180	Percent Volatile by Volume: 95%
Appearance: Colorless liquid	Odor: Typical Methylene Chloride
VOC content: 244 grams/liter	

**4. FIRE AND EXPLOSION HAZARD DATA:**

Flash Point: None to boiling point  
Flammable Limits: LFL: Unknown UFL: Unknown  
Extinguishing Media: Water fog  
Fire & Explosion Hazards: May form flammable vapor-air mixtures at temperatures above ambient. Lower temperatures increase the difficulty of ignition.  
Fire-fighting Equipment: Wear positive pressure self contained respiratory equipment due to thermal decomposition products

**5. HEALTH HAZARD DATA:**

**EFFECTS OF OVEREXPOSURE:**

Eyes: Can cause severe irritation and slight corneal injury. Vapors may also irritate eyes. Injury intensifies with extended contact.

Skin: Prolonged or repeated exposure will cause a burn. The burn will intensify with repeated contact.

Skin Absorption: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

Ingestion: Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, and even death. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

Inhalation: Major route of potential exposure. Methylene Chloride depresses the central nervous system. Concentrations between 900-1,000 ppm may cause dizziness or drunkenness. Nausea, headache, and vomiting can occur at concentrations above 2,000 ppm. At 7,000 ppm, numbness and tingling in arms and legs and rapid heartbeat have occurred. Loss of consciousness and death have occurred at levels above 9,000 ppm, if exposure is prolonged. Carboxyhemoglobin levels can be elevated in persons exposed to methylene chloride and can cause a substantial stress on the cardiovascular system. This elevation can be additive to the increase caused by smoking and other carbon monoxide sources.

Medical Conditions Aggravated By Exposure: Alcoholism, acute and chronic liver disease, chronic lung disease, anemia, coronary disease or rhythm disorders of the heart.

Notes: Reports have associated repeated and prolonged overexposure to solvents to permanent brain and nervous system damage. Persons thought to have heart or respiratory problems should seek medical advice before using solvents of any kind. If signs of allergy develop (breathing difficulty, eye itching, prolonged itching and redness of the skin, headaches, dizziness, etc.) discontinue use of this product immediately and consult a physician. Drinking alcohol before, during, or after exposure to solvents may cause undesirable effects.



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Benco Sales, Inc., P.O. Box 1215, Crossville, In. 38557  
Emergency Phone: 615-484-9578

**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER-Page 2**

**FIRST AID:**

**Eyes:** Flush with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.  
**Skin:** Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.  
**Ingestion:** Call physician, poison control center, or hospital emergency room **IMMEDIATELY**.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.  
**NOTE TO PHYSICIAN:** Adrenalin should never be given to a person overexposed to methylene chloride.

**TOXICITY:**

**Chronic Toxicity:** The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans. Overexposure should be avoided, failure to do so could result in injury, illness or even death.

Chronic overexposures to methylene chloride have caused liver and kidney toxic effects in experimental animals.

**Carcinogenicity:** Methylene Chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000, and 4,000 ppm increased the incidence of malignant liver and lung tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in female rats at concentrations of 500 ppm and above and increases in benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250 mg/kg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500 ppm lifetime did not show an increased incidence of tumors. The International Agency for Research on Cancer (IARC) has concluded that there is sufficient evidence for the carcinogenicity of methylene chloride to experimental animals, and inadequate evidence for the carcinogenicity of methylene chloride to humans, resulting in a classification as a 2B animal carcinogen. The NTP has identified methylene chloride as an animal carcinogen. Methylene chloride is listed on the IARC and NTP carcinogen lists but not by OSHA. The State of California has listed methylene chloride under Proposition 65 as a chemical known to the state to cause cancer. Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace for a minimum of 20 years did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

**Reproductive Toxicity:** Reproductive toxicity tests have been conducted to evaluate the adverse effects methylene chloride may have on reproduction and offspring of laboratory animals. The results indicate that methylene chloride does not cause birth defects in laboratory animals.

**6. REACTIVITY DATA:**

**Hazardous Polymerization:** Can not occur.

**Stability:** Stable

**Incompatibility:** Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products:** Open flames or welding arcs can cause thermal degradation with the evolution of hydrogen chloride and very small amounts of phosgene and chlorine.

**7. SPILL OR LEAK PROCEDURES:**

**Action to Take for Spills or Leaks:**

**Small Spills:** mop up, wipe up, or soak up immediately. Remove to out of doors.

**Large Spills:** evacuate area. Contain liquid and transfer to closed metal or high density polyethylene containers. Avoid contamination of ground and surface waters. If spill occurs indoors, turn off air conditioning and/or heating system to prevent vapors from

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**PRODUCT NAME: BENCO #B7 INDUSTRIAL PAINT REMOVER-Page 3**

**Disposal Method:** Evaporate small quantities in compliance with local, state, and federal regulations. Large quantities may be sent to a licensed reclaimer. Contaminated absorbent material or any contaminated solids are considered hazardous waste and must be disposed of at an approved landfill or incinerator in compliance with local, state and federal regulations. Do not dispose of this material or any waste residue of this material into septic systems, storm drains, or directly onto the ground.

**3. HANDLING PRECAUTIONS:**

**Exposure Guideline:** ACGIH TWA is 50 ppm. OSHA TWA is 500 ppm.

**Ventilation:** Controlling airborne concentrations below the ACGIH TLV exposure guideline is recommended. Use only with adequate ventilation. Local exhaust ventilation is necessary for most operations. Lethal concentrations may exist in areas with poor ventilation.

**Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. If this level is exceeded, use an approved air purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus.

**Skin Protection:** Wear chemical resistant rubber gloves, apron, boots, and plastic arm sleeves.

**Eye Protection:** Use safety glasses. Where contact is likely use chemical splash goggles.

**Hygiene:** Avoid contact with skin and avoid breathing vapors. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom. Any clothing or shoes that have been contaminated should be removed immediately and thoroughly laundered before wearing again.

**Safety Shower and Eyewash Station** should be available in work area.

**ADDITIONAL INFORMATION:**

**Special precautions to be taken in Handling and Storage:** Exercise reasonable care and caution. Avoid breathing vapors. Store in a cool place out of direct sunlight. Concentrated vapors of this product are heavier than air and will collect in low areas such as pits and degreasers, storage tanks, and other confined areas. Do not enter those areas where vapors of this product are suspected unless special breathing apparatus is used and an observer is present for assistance. Do not use this product in a tank or vat where the product level is lower than 12" from the top of the tank. Lethal concentrations of vapors occur in tanks and every effort should be made to keep from breathing near or below the top level of the tank.

Do not pressure product out of container with air. When opening drum, open bung partially and vent any accumulated pressure before removing bung completely. Empty product containers may contain liquid or vapor residues of this product. All precautions suggested in this data sheet apply to empty containers also. Empty containers are property of Benco Sales, Inc. and should not be sold to individuals or other parties. Do not repackaging this product for resale. Any product purchased for resale must have this MSDS attached to each container and must be in original container. If each container does not have an MSDS, call Benco at 800-854-4874. Do not use this product in areas where contact of vapors with gas flames or hot electric elements can occur. Please call Benco at 800-854-4874 for advice on proper heating systems. Contact with flames or electric elements can produce hydrochloric acid and phosgene fumes which can be fatal. Overexposure to this product can raise the level of carbon monoxide in the blood causing cardiovascular stress. Do not remove or deface labels off containers.

This Material Safety Data Sheet supercedes any previous Material Safety Data Sheet on this product. Effective date: MARCH 16, 1990.

The information accumulated herein is given in good faith and believed to be accurate, but no warranty, expressed or implied, of merchantability, fitness, or otherwise is made. The suggested procedures are based on experience as of the date of publication. They are not inclusive nor fully adequate in every circumstance. Consult Benco Sales, Inc., for proper handling procedures in specific situations or for any other further information.

MATERIAL SAFETY DATA SHEET

RHO-CHEM CORP.  
425 ISIS AVE.  
INGLEWOOD, CA 90301  
(213)776-6233

RHO CLENE 45  
EFFECTIVE 8-20-86  
PAGE 1

SECTION 1

IDENTIFICATION

PRODUCT: RHO CLENE 45  
CHEMICAL FAMILY: SOLVENT BLEND  
SYNONYM: N/A  
STOCK NUMBERS:

TECHNICAL GRADE: 7445  
ELECTRONIC/SEMI GRADE: N/A

RECONSTITUTED GRADE: N/A  
A.C.S. REAGENT GRADE: N/A

DEPARTMENT OF TRANSPORTATION (DOT) IDENTIFICATION

DOT PROPER SHIPPING NAME: FLAMMABLE LIQUID, NOS  
DOT HAZARD CLASS: FLAMMABLE LIQUID  
DOT IDENTIFICATION NUMBER: UN 1993

HAZARDOUS WASTE IDENTIFICATION

WASTE NUMBER: US EPA D001 CALIFORNIA: 214

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT:  
THIS CHEMICAL IS NOT PHOTOCHEMICALLY REACTIVE

SECTION 2

PRODUCT/COMPOSITION DATA

COMPONENT #	COMPONENT	CAS NUMBER	VOL/PERCENT
	RHO CLENE 45		100.0
1	ISOPROPYL ALCOHOL	67-63-0	37.0
2	PARAFFINS AND NAPHTHENES	64742-89-8	20.0
3	ACETONE	67-64-1	20.0
4	METHYL ETHYL KETONE	78-93-3	13.0
5	TOLUENE	108-88-3	5.0
6	XYLENE	1330-20-7	5.0
7	BLUE DYE	N/A	TRACE
			100.0

\*COMPOSITION MAY VARY

SECTION 3

PHYSICAL DATA

BOILING POINT  
OR RANGE  
(DEG. F)

133-382F

SPECIFIC  
GRAVITY  
(25/25C)

0.79

SOLUBILITY IN  
WATER @25C  
(WT %)

68.0

VAPOR  
PRESSURE  
(mm Hg)

85 @ 68F

VAPOR DENSITY  
IN AIR (AIR=1)

2.5

% VOLATILE  
BY VOLUME

100

EVAPORATION RATE  
n-BUTYL ACETATE = 1

3.0

APPEARANCE: BLUE CLEAR LIQUID

ODOR: MILD ODOR

SECTION 4A

HEALTH INFORMATION-HEALTH RATING

HAZARDOUS MATERIALS IDENTIFICATION SYSTEMS (HMIS)

HEALTH (3)

FIRE (4)

REACTIVITY (0)

PERSONAL PROTECTION (C) SAFETY GLASSES  
GLOVES / APRON

SECTION 4B

HEALTH INFORMATION-ACUTE TOXICITY DATA

COMPONENT #	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
1	RAT: 5.8 G/KG	RABBIT: 13 G/KG	RAT: 64000 PPM/4HR
2	N/A	N/A	N/A
3	RAT: 9.75 G/KG	RABBIT: 20.0 G/KG	RAT: 16,000 PPM/4HR
4	RAT: 3.4 G/KG	RABBIT: 8 ML/KG	RAT: 8,000 PPM/8HR
5	RAT: 5.0 G/KG	RABBIT: 14 G/KG	RAT: 8000 PPM/4HR
6	RAT: 4.3 G/KG	RABBIT: >3.95 ML/KG	RAT: 6700 PPM/4HR

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SECTION 4C HEALTH INFORMATION-OCCUPATIONAL EXPOSURE LIMITS

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COMPONENT	(OSHA)		(ACGIH)	
	PEL/TWA	PEL CEILING	TLV/TWA	TLV/STEL
1	400 PPM	----	400 PPM	500 PPM
2	430 PPM EST.	----	430 PPM	----
3	750 PPM	3000 PPM	750 PPM	1000 PPM
4	200 PPM	----	200 PPM	300 PPM
5	100 PPM	500 PPM	100 PPM	150 PPM
6	100 PPM	300 PPM	100 PPM	150 PPM

---

SECTION 4D HEALTH INFORMATION - EFFECTS OF EXPOSURE

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EFFECTS DESCRIBED IN THIS SECTION ARE BELIEVED NOT TO OCCUR IF EXPOSURES TO THE PRODUCT ARE MAINTAINED AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C. PREEXISTING SKIN, EYE, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

POTENTIAL ROUTE OF ENTRY:

INHALATION X

SKIN ---

INGESTION ---

INHALATION:

VAPORS MAY BE IRRITATING TO THE NOSE, THROAT AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

SKIN:

LIQUID IS IRRITATING TO THE SKIN. PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN TO BECOME REDDENED, ROUGH, AND DRY DUE TO THE REMOVAL OF NATURAL OILS, AND MAY RESULT IN DERMATITIS.

EYES:

LIQUID IS SEVERELY IRRITATING TO THE EYES.

LIQUID CAUSES TEMPORARY PAINFUL BURNING SENSATION, TEARING, GENERAL INFLAMMATION, AND BLURRED VISION.

HIGH VAPOR CONCENTRATION MAY ALSO CAUSE IRRITATION.

INGESTION:

LIQUID IS TOXIC AND MAY BE HARMFUL IF SWALLOWED.

MAY PRODUCE CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

SWALLOWING PRODUCT MAY RESULT IN GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

ASPIRATION (BREATHING) OF VOMITUS INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES MAY RESULT IN ASPIRATION PNEUMONITUS AND SYSTEMIC EFFECTS.

**SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE:**

INTENTIONAL ABUSE, MISUSE, OR OTHER MASSIVE EXPOSURE MAY RESULT IN DIFFICULT BREATHING, NAUSEA, VOMITING AND HEADACHE. COMA AND/OR DEATH ARE POSSIBLE.

CENTRAL NERVOUS SYSTEM DEPRESSION RANGES FROM LIGHT HEADEDNESS TO UNCONSCIOUSNESS AND DEATH. CNS DEPRESSION IS EVIDENCED BY GIDDINESS, DIZZINESS, AND NAUSEA.

ASPIRATION PNEUMONITUS MAY BE EVIDENCED BY COUGHING, LABORED BREATHING AND CYANOSIS (BLUISH SKIN). IN SEVERE CASES DEATH MAY OCCUR.

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**SECTION 4E**

**SUPPLEMENTAL HEALTH INFORMATION**  
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IS THE PRODUCT OR A COMPONENT OF THE PRODUCT LISTED AS A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM (NTP), INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) OR IS IT THE SUBJECT OF A HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE (HESIS) HAZARD ALERT?

COMPONENT NUMBER	NTP CARCINOGEN	OSHA CARCINOGEN	IARC CARCINOGEN	HESIS HAZARD ALERT
1	NO	NO	NO	NO
2	NO	NO	NO	NO
3	NO	NO	NO	NO
4	NO	NO	NO	NO
5	NO	NO	NO	NO
6	NO	NO	NO	NO

-----  
**COMPONENT INFORMATION**  
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**ISOPROPYL ALCOHOL**

IN RATS: 1) LIVER AND KIDNEY ENLARGEMENT HAS BEEN SEEN AT LEVELS >6250 PPM IN DRINKING WATER. 2) ANEMIA HAS BEEN SEEN AT 12500 AND 25000 PPM IN DRINKING WATER.

#### PARAFFINS AND NAPHTHENES

MALE RATS EXPOSED FOR 90 DAYS BY INHALATION TO VAPORS OF SIMILAR SOLVENTS SHOWED EVIDENCE OF KIDNEY DAMAGE. THE RELEVANCE OF THIS EFFECT TO MAN IS UNKNOWN. IN ONE OF THE STUDIES A LOW GRADE ANEMIA WAS ALSO OBSERVED.

#### TOLUENE

WHILE THERE IS NO EVIDENCE THAT INDUSTRIALLY ACCEPTABLE LEVELS OF TOLUENE VAPORS (E.G. THE TLV) HAVE PROLONGED CARDIAC EFFECTS IN HUMANS. ANIMAL STUDIES HAVE SHOWN THAT INHALATION OF HIGH LEVELS OF TOLUENE PRODUCED CARDIAC SENSITIZATION. SUCH SENSITIZATION MAY CAUSE FATAL CHANGES IN HEART RHYTHMS. THIS LATTER EFFECT WAS SHOWN TO BE ENHANCED BY HYPOXIA OR THE INJECTION OF ADRENALIN-LIKE AGENTS. RATS EXPOSED TO 1400 PPM OR 1200 PPM OF TOLUENE FOR 14H/DAY FOR 4 OR 5 WEEKS (RESPECTIVELY) EXHIBITED HIGH FREQUENCY HEARING DEFICITS. THE SIGNIFICANCE OF THIS INFORMATION TO MAN IS UNKNOWN.

LABORATORY ANIMALS EXPOSED BY VARIOUS ROUTES TO HIGH DOSES OF XYLENE SHOWED EVIDENCE OF EFFECTS IN THE LIVER, KIDNEYS, LUNGS, SPLEEN, HEART AND ADRENALS. RATS EXPOSED TO XYLENE VAPOR DURING PREGNANCY SHOWED EMBRYO/FETOTOXIC EFFECTS. MICE EXPOSED ORALLY TO DOSES PRODUCING MATERNAL TOXICITY ALSO SHOWED EMBRYO/FETOTOXIC EFFECTS.

#### ACETONE

NO SUPPLEMENTAL HEALTH INFORMATION HAS BEEN IDENTIFIED.

#### METHYL ETHYL KETONE

IN FEMALE RATS EXPOSED BY INHALATION TO OVER 1000 PPM (5X'S THE OSHA-PEL/TWA) MINOR EMBRYOTOXIC/FETOTOXIC EFFECTS WERE OBSERVED.

METHYL ETHYL KETONE HAS BEEN DEMONSTRATED TO POTENTIATE (I.E. SHORTEN THE TIME OF ONSET) THE PERIPHERAL NEUROPATHY CAUSED BY EITHER N-HEXANE OR METHYL N-BUTYL KETONE. MEK BY ITSELF HAS NOT BEEN DEMONSTRATED TO CAUSE PERIPHERAL NEUROPATHY.

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#### SECTION 5

#### EMPLOYEE PROTECTION

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#### VENTILATION:

MAINTAIN WORKPLACE VAPOR CONCENTRATIONS AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C.

**PROTECTIVE MEASURES FOR MAINTENANCE:**

EXERCISE REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. STORE IN A COOL PLACE. CONCENTRATED VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE. DO NOT PRESSURE PRODUCT OUT OF VESSEL OR TRANSPORT CONTAINER WITH AIR.

**RESPIRATORY PROTECTION:**

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SECTION 4C) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

**SKIN PROTECTION:**

FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERING CLOTHING SHOULD BE NEEDED. WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION.

**EYE PROTECTION:**

USE SAFETY GLASSES. WHERE CONTACT WITH LIQUID IS LIKELY, CHEMICAL GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT WITH THIS MATERIAL MAY CAUSE PAIN, EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY. CONTACT LENSES SHOULD NOT BE WORN.

**HYGIENE:**

AVOID CONTACT WITH SKIN AND AVOID BREATHING VAPORS. DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH HANDS PRIOR TO EATING, DRINKING, OR USING RESTROOM.

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**SECTION 6**

**EMERGENCY AND FIRST AID**

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**EYE CONTACT:**

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.



**SKIN CONTACT:**

REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED.

**INHALATION:**

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

**INGESTION:**

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION. SEE NOTE TO PHYSICIAN.

**NOTE TO PHYSICIAN:**

BECAUSE RAPID ABSORPTION MAY OCCUR THROUGH LUNGS IF ASPIRATED AND CAUSE SYSTEMIC EFFECTS, THE DECISION OF PHYSICIAN. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGEAL CONTROL. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. IF BURN IS PRESENT, TREAT AS ANY THERMAL BURN, AFTER DECONTAMINATION. EXPOSURE MAY INCREASE "MYOCARDIAL IRRITABILITY". DO NOT ADMINISTER SYMPATHOMIMETIC DRUGS UNLESS ABSOLUTELY NECESSARY. NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

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**SECTION 7**

**FIRE AND EXPLOSION HAZARDS**

---

**FLASH POINT:** <70 F

**FLAMMABLE LIMITS:** VOLUME IN AIR UPPER LIMITS: 12.8%  
LOWER LIMITS: 1.0%

**EXTINGUISHING MEDIA:**

USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

**SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:**

**WARNING.** FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS) INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY). BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

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**SECTION 8**

**REACTIVITY**

---

**STABILITY:** THIS PRODUCT IS STABLE

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR

**CONDITIONS AND MATERIALS TO AVOID:**

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE OR CALCIUM HYPOCHLORITE.

AVOID CONTACT WITH STRONG ALKALIES SUCH AS SODIUM HYDROXIDE AND CONTACT WITH STRONG MINERAL ACIDS SUCH AS SULFURIC, HYDROCHLORIC AND NITRIC ACIDS.

AVOID CONTACT WITH ALUMINUM SURFACES. IF THE ALUMINUM OXIDE SURFACE FILM IS REMOVED, RELEASE OF HYDROGEN GAS CAN RESULT.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

---

SECTION 9

SPILL AND DISPOSAL PRACTICES

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SPILL:

EVACUATE THE AREA, VENTILATE, AND AVOID BREATHING VAPORS. DIKE AREA TO CONTAIN SPILL. CLEAN UP AREA (WEAR PROTECTIVE EQUIPMENT) BY MOPPING OR WITH ABSORBENT MATERIAL AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. AVOID CONTAMINATION OF GROUND AND SURFACE WATERS. DO NOT FLUSH TO SEWER.

WASTE DISPOSAL:

RECOVERED LIQUIDS MAY BE SENT TO A LICENSED RECLAIMER OR INCINERATION FACILITY. CONTAMINATED MATERIAL MUST BE DISPOSED OF IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY. CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED PROCEDURES.

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SECTION 10

SPECIAL PRECAUTIONS

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KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHT, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE: FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED. CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS.

STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

HANDLING AND STORAGE:

HANDLE WITH REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBERVER IS PRESENT FOR ASSISTANCE.

STORE DRUMS IN A COOL PLACE, BUNG UP AND TIGHTLY CLOSED. STORAGE TANKS SHOULD BE ADEQUATELY VENTED FOR FILLING AND PRESSURE EQUALIZATION. VENTS FROM INDOOR TANKS SHOULD TERMINATE OUTDOORS.

DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES OVER 120 DEGREE FARENHEIT.

PRODUCT IS FOR USE AS A COLD CLEANING SOLVENT AT ROOM TEMPERATURE. DO NOT HEAT PRODUCT ABOVE ROOM TEMPERATURE WITH AN EXTERNAL HEAT SOURCE. FIRE OR EXPLOSION MAY OCCUR. DO NOT USE PRODUCT IN A VAPOR DEGREASING MACHINE, SOLVENT DECOMPOSITION AND/OR FIRE MAY OCCUR. USE OF THIS PRODUCT AS AN ATOMIZED SPRAY IS NOT RECOMMENDED. PRODUCT AEROSOLS MAY BE FLAMMABLE OR EXPLOSIVE.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

---

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE. SINCE THE ACTUAL USE OF THIS PRODUCT BY OTHERS IS BEYOND THE CONTROL OF RHO-CHEM CORPORATION, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THIS PRODUCT.

cl. 1B. (MAX 15gal 4-17-91)

MATERIAL SAFETY DATA SHEET

Keep in flammable  
cabinet indoors.

MANUFACTURER'S NAME:

CARDINAL PAINT  
1329 POTRERO AVE  
SOUTH EL MONTE, CA 91733

EMERGENCY TELEPHONE NO.:

(818) 444-9274

INFORMATION TELEPHONE NO.:

(818) 444-9274

DATE OF PREPARATION: 12-12-1988

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER: R602  
PRODUCT NAME: 1600-02 POLYURETHANE REDUCER  
PRODUCT CLASS: SOLVENT BLEND

SECTION II - HAZARDOUS INGREDIENTS

OCCUPATIONAL INGREDIENT EXPOSURE LIMITS	VAPOR PRESSURE mm Hg @ TEMP	CAS NUMBER	WEIGHT PERCENT
METHYL ACETATE- U.G. OSHA TWA: 150 PPM	10.0 20C	123-86-4	45
METHYL ETHYL KETONE U.G. (2-BUTANONE) ACGIH/TLV: 200 PPM	70.0 20C	78-93-3	25
METHYL AMYL KETONE U.G. (2-HEPTANONE) OSHA TWA: 100 PPM	2.1 20C	110-43-0	30

SECTION III - PHYSICAL DATA

BOILING RANGE: 175-300 DEG F VAPOR DENSITY: HEAVIER THAN AIR  
EVAPORATION RATE: SLOWER THAN ETHER % VOLATILE VOLUME: 100.00 WT/GAL: 7.03

"WARNING: THIS PRODUCT CONTAINS A  
CHEMICAL(S) KNOWN TO THE STATE OF  
CALIFORNIA TO CAUSE CANCER OR BIRTH  
DEFECTS OR OTHER REPRODUCTIVE HARM."

FOR CHEMICAL EMERGENCIES INVOLVING  
SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT  
PHONE CHEMTREC  
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#### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

---

**FLAMMABILITY CLASSIFICATION:** Flammable Liquid - Class IB

**FLASH POINT:** 24 DEG F (TOC)                      **LEL:** 1.1

**EXTINGUISHING MEDIA:** FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG,

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

GROUND CONTAINERS, KEEP AWAY FROM SOURCES OF IGNITION

**SPECIAL FIREFIGHTING PROCEDURES:**

SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

---

#### SECTION V - HEALTH HAZARD DATA

---

**EFFECTS OF OVEREXPOSURE:**

EYES-CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.  
SKIN-PROLONGED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.  
INHALATION-NASAL IRRITATION, DIZZINESS, WEAKNESS, NAUSEA, HEADACHE, UNCONSCIOUSNESS.  
INGESTION-CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

**MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:**

NONE

**PRIMARY ROUTE(S) OF ENTRY:** DERMAL, INHALATION,

**EMERGENCY AND FIRST AID PROCEDURES:**

EYES-FLUSH WITH WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.  
SKIN-WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING.  
INHALATION-REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN.  
IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION.  
INGESTION-DO NOT INDUCE VOMITING. KEEP PERSON WARM, QUIET, AND GET MEDICAL HELP.

---

#### SECTION VI - REACTIVITY DATA

---

**STABILITY:** STABLE

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR

NONE

**HAZARDOUS DECOMPOSITION PRODUCTS:**

BURNING MAY PRODUCE CARBON DIOXIDE AND/OR CARBON MONOXIDE FUMES.

**CONDITIONS TO AVOID:**

AVOID EXTREME TEMPERATURES.

**INCOMPATIBILITY (MATERIALS TO AVOID):**

AVOID CONTACT WITH STRONG OXIDIZERS.

---

## SECTION VII - SPILL OR LEAK PROCEDURES

---

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REFER TO SECTIONS IV, V, VI, AND VII. ELIMINATE ALL IGNITION SOURCES, ABSORB LIQUID IN ABSORBANT MATERIAL AND PREVENT SPREADING TO GROUND WATER.

### WASTE DISPOSAL METHOD:

DESTROY BY LIQUID INCINERATION IN ACCORDANCE WITH APPLICABLE REGULATIONS. CONTAMINATED ABSORBANT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

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## SECTION VIII - SAFE HANDLING AND USE INFORMATION

---

### RESPIRATORY PROTECTION:

IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER.) ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

### VENTILATION:

PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV (S).

### PROTECTIVE GLOVES:

WEAR RESISTANT GLOVES SUCH AS: POLYVINYL ALCOHOL COATED OR POLYETHYLENE.

### EYE PROTECTION:

OSHA APPROVED CHEMICAL SPLASH GOGGLES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

### OTHER PROTECTIVE EQUIPMENT:

PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH GB PROTECTIVE HANDCREAM, WEAR IMPERVIOUS CLOTHING AND CHEMICAL RESISTANT BOOTS.

### HYGIENIC PRACTICES:

"WASH HANDS BEFORE EATING OR USING REST ROOM, SMOKE IN SMOKING AREAS ONLY."

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## SECTION IX - SPECIAL PRECAUTIONS

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### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED, SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUALS (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.

### OTHER PRECAUTIONS:

OVEREXPOSURE HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS: LIVER ABNORMALITIES, KIDNEY DAMAGE, LUNG DAMAGE. ALSO OVEREXPOSURE TO THE MATERIAL HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS: CARDIAC ABNORMALITY, LIVER ABNORMALITIES, KIDNEY DAMAGE, AND LUNG DAMAGE.

SECTION X - SUSPECTED CARCINOGEN

SUSPECTED CANCER AGENT?

☒ NO: THIS PRODUCT'S INGREDIENTS ARE NOT FOUND IN THE LIST BELOW.

☐ YES: FEDERAL OSHA ☐ NTP ☐ IARC ☐ CAL/OSHA (SEE BELOW)

NOTE: CALIFORNIA EMPLOYERS USING CAL/OSHA-REGULATED CARCINOGENS MUST REGISTER WITH CAL/OSHA.

SECTION XI - SHIPPING INFORMATION

D.O.T. SHIPPING NAME : FLAMMABLE LIQUID, N.O.S.  
TECHNICAL SHIPPING NAME : N/A  
D.O.T. HAZARD CLASSIFICATION : FLAMMABLE LIQUID  
UN/NA NUMBER : UN 1993  
D.O.T. LABELS REQUIRED : FLAMMABLE  
FLASH POINT : 24° F (TCC)  
H.M.I.S. RATINGS: HEALTH 2 FLAMMABILITY 3 REACTIVITY 0

SECTION XII - E. P. A. INFORMATION

VOC CONTENT: (AS SUPPLIED)	GRAMS/LITER	LBS/GAL
EXCLUDING EXEMPT SOLVENTS	<u>844</u>	<u>7.03</u>
INCLUDING EXEMPT SOLVENTS	<u>844</u>	<u>7.03</u>

WATER PER VOLUME 0 % 1,1,1-TRICHLOROETHANE PER VOLUME 0 %

VOC VAPOR PRESSURE @ mmHg @ 20° C (estimated) 30.5

COMMENTS NON-PHOTOCHEMICALLY REACTIVE PER RULE 66.

THE INFORMATION CONTAINED HEREIN IS BASED UPON TECHNICAL DATA CONSIDERED TO BE TRUE AND ACCURATE. HOWEVER, CARDINAL INDUSTRIAL FINISHES MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, AS TO THE ACCURACY OR ADEQUACY OF THIS INFORMATION. THIS DATA IS OFFERED SOLEY FOR THE USER'S CONSIDERATION, INVESTIGATION AND VERIFICATION.

FORM PREPARED BY Richard A. Stewart

REGULATORY TECHNICIAN



OK to store inside.  
NO LIMIT. (+600gal)  
**MATERIAL SAFETY DATA SHEET**

MANUFACTURER'S NAME:

CERAMAL PAINT  
1329 POTRERO AVE  
SOUTH EL MONTE, CA 91733

EMERGENCY TELEPHONE NO.:

(818) 444-9274

INFORMATION TELEPHONE NO.:

(818) 444-9274

DATE OF PREPARATION: 12-19-1988

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER: 8100  
PRODUCT NAME: 8100 W/R BAKING ENAMEL SERIES  
PRODUCT CLASS: WATERBORNE BAKING ENAMEL

FOR CHEMICAL EMERGENCIES INVOLVING  
SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT  
PHONE CHEMTREC  
Toll Free • Day or Night  
800-424-9300

SECTION II - HAZARDOUS INGREDIENTS

OCCUPATIONAL INGREDIENT EXPOSURE LIMITS	VAPOR PRESSURE mm Hg @ TEMP	CAS NUMBER	WEIGHT PERCENT
TITANIUM DIOXIDE OSHA TWA 15mg/M3	0.0 20C	13463-67-7	15
DIMETHYLETHANOLAMINE (DMEA) NOT ESTABLISHED	4.0 20C	108-01-0	< 5.0%
BUTYL CELLOSOLVE (ETHYLENE GLYCOL MONOBUTYL ETHER) ACGIH/TLV TWA: 25 PPM	0.6 20C	111-76-2	5

SECTION III - PHYSICAL DATA

BOILING RANGE: 212 DEG F

VAPOR DENSITY: HEAVIER THAN AIR

EVAPORATION RATE: SLOWER THAN ETHER % VOLATILE VOLUME: 63.30 WT/GAL: 11.30

\*WARNING: THIS PRODUCT CONTAINS A  
CHEMICAL(S) KNOWN TO THE STATE OF  
CALIFORNIA TO CAUSE CANCER OR BIRTH  
DEFECTS OR OTHER REPRODUCTIVE HARM.\*

---

#### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

---

**FLAMMABILITY CLASSIFICATION:** Combustible Liquid - Class IIIB

**FLASH POINT:** ABOVE 212 DEG F TCC      **LEL:** 1.0

**EXTINGUISHING MEDIA:** FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG,

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

CONTAINERS MAY EXPLODE WHEN EXPOSED TO SEVERE HEAT OF FIRE.

DECOMPOSITION OF PRODUCE DURING FIRE MAY PRODUCE TOXIC FUMES.

**SPECIAL FIREFIGHTING PROCEDURES:**

SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

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#### SECTION V - HEALTH HAZARD DATA

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**EFFECTS OF OVEREXPOSURE:**

EYES-CAN CAUSE IRRITATION, REDNESS, TEARING OR BLURRED VISION.

SKIN-MILD IRRITATION, PROLONGED EXPOSURE MAY BE TOXIC.

INHALATION-NASAL IRRITATION, HEADACHE, DIZZINESS, NAUSEA, VOMITING.

INGESTION-MODERATELY TOXIC. MAY CAUSE HEADACHE, NAUSEA, VOMITING AND WEAKNESS.

**MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:**

NONE

**PRIMARY ROUTE(S) OF ENTRY:** DERMAL, INHALATION,

**EMERGENCY AND FIRST AID PROCEDURES:**

EYES-FLUSH WITH WATER FOR 15 MINUTES. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN-WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING.

INHALATION-REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN.

IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION.

INGESTION-INDUCE VOMITING, KEEP PERSON WARM AND QUIET. GET MEDICAL ATTENTION.

---

#### SECTION VI - REACTIVITY DATA

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**STABILITY:** STABLE

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR  
NONE

**HAZARDOUS DECOMPOSITION PRODUCTS:**

BURNING MAY PRODUCE CARBON DIOXIDE AND/OR CARBON MONOXIDE.

**CONDITIONS TO AVOID:**

EXTREMELY HIGH TEMPERATURES.

**INCOMPATIBILITY (MATERIALS TO AVOID):**

AVOID CONTAMINATION WITH ALKALIES.

THRESHOLD LIMIT VALUE See Section II

EFFECTS OF OVEREXPOSURE

ACUTE Minor eye and respiratory tract irritation possible.

CHRONIC Slight skin sensitization possible.

EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Flush immediately with plenty of water for 15 min

Ingestion: Obtain medical attention immediately.

Inhalation: Remove from area to fresh air.

Skin Contact: Wash thoroughly with soap and water.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE

CONDITIONS TO AVOID

INCOMPATIBILITY (Materials to avoid) Unknown

HAZARDOUS DECOMPOSITION PRODUCTS CO

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

CONDITIONS TO AVOID

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Sweep up carefully.

WASTE DISPOSAL METHOD Dispose as solid waste in accordance with local, state, and federal regulations. Do not incinerate closed containers.

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

Use Bureau of Mines respirator approved for nuisance dusts.

VENTILATION Sufficient ventilation in volume and pattern to keep LEL and TLV's below acceptable OSHA limits.

PROTECTIVE GLOVES

Synthetic rubber gloves recommended.

EYE PROTECTION

Goggles or safety glasses with side shields recommended.

OTHER PROTECTIVE EQUIPMENT

Protective coveralls recommended. Remove and wash contaminated clothing.

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

FLAMMABLE STORAGE CATEGORY

OTHER PRECAUTIONS

Do not ingest.

Keep all equipment clean and properly grounded to avoid static electricity build up.

Maintain good housekeeping and dust control.



THE O'BRIEN CORPORATION  
FULLER O'BRIEN PAINTS  
NASON AUTOMOTIVE FINISHES — NAPKO PRODUCTS

MIDWESTERN REGION  
2001 WEST WASHINGTON AVENUE  
P.O. BOX 17  
SOUTH BEND, IN 48624  
EMERGENCY TELEPHONE (219) 233-9332

WESTERN REGION  
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SOUTH SAN FRANCISCO, CA 94080  
EMERGENCY TELEPHONE (415) 751-2306

SOUTHWESTERN REGION  
5300 SUNRISE STREET  
P.O. BOX 14509  
HOUSTON, TX 77021  
EMERGENCY TELEPHONE (713) 641-0653



## MATERIAL SAFETY DATA SHEET

FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor. Essentially Similar to Form OSHA-20)

DATE 6/11/85

### Section I

PRODUCT CLASS

Powder Paint

MANUFACTURERS CODE IDENTIFICATION

TRADE NAME

Dura White

EFW-556-S2

### Section II — HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT BY WEIGHT	TLV		LEL	VAPOR PRESSURE
		PPM	mg/M <sup>3</sup>		
Treat as nuisance dust	100		10	40 grams per cubic meter of air.	

### Section III — PHYSICAL DATA

BOILING RANGE Not Applicable

VAPOR DENSITY ☐ HEAVIER, ☐ LIGHTER THAN AIR

EVAPORATION RATE ☒ FASTER ☐ SLOWER THAN ETHER

PERCENT VOLATILE  
BY VOLUME

0%

Not Applicable

WEIGHT PER  
GALLON

Not Applicable

### Section IV — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION Not Applicable

FLASH POINT > 250°F

LEL

40 grams per cubic  
meter of air.

EXTINGUISHING MEDIA

CO<sub>2</sub>, foam, water fog. Powder will burn in contact with flame.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Dust cloud of 40 grams per cubic meter of air can be ignited by a spark of 20 milijoules e. y. Explosion proceeds at 200 atmospheres per second.

SPECIAL FIRE FIGHTING PROCEDURES

Use self-contained breathing apparatus to protect against possibly hazardous combustion products.

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## SECTION VII - SPILL OR LEAK PROCEDURES

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### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REFER TO SECTIONS IV, V, VI, AND VII. ELIMINATE ALL IGNITION SOURCES, ABSORB LIQUID IN ABSORBANT MATERIAL AND PREVENT SPREADING TO GROUND WATER.

### WASTE DISPOSAL METHOD:

DESTROY BY LIQUID INCINERATION IN ACCORDANCE WITH APPLICABLE REGULATIONS. CONTAMINATED ABSORBANT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

---

## SECTION VIII - SAFE HANDLING AND USE INFORMATION

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### RESPIRATORY PROTECTION:

IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER.) ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

### VENTILATION:

PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV (S).

### PROTECTIVE GLOVES:

WEAR RESISTANT GLOVES SUCH AS: POLYVINYL ALCOHOL COATED OR POLYETHYLENE.

### EYE PROTECTION:

OSHA APPROVED CHEMICAL SPLASH GOGGLES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

### OTHER PROTECTIVE EQUIPMENT:

PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH GB PROTECTIVE HANDCREAM, WEAR IMPERVIOUS CLOTHING AND CHEMICAL RESISTANT BOOTS.

### HYGIENIC PRACTICES:

"WASH HANDS BEFORE EATING OR USING REST ROOM, SMOKE IN SMOKING AREAS ONLY."

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## SECTION IX - SPECIAL PRECAUTIONS

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### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED, SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUALS (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS IN THIS DATA SHEET MUST BE OBSERVED.

### OTHER PRECAUTIONS:

PAINT AND SOLVENTS HAVE BEEN LINKED TO LIVER ABNORMALITIES, KIDNEY AND LUNG DAMAGE. ALTHOUGH THIS COATING IS A WATERBORNE OF LOW TOXICITY, FOLLOW PRECAUTIONS OF THIS MATERIAL SAFETY DATA SHEET TO PREVENT OVEREXPOSURE.

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SECTION X - SUSPECTED CARCINOGEN  
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SUSPECTED CANCER AGENT?

XNO: THIS PRODUCT'S INGREDIENTS ARE NOT FOUND IN THE LIST BELOW.

  YES: FEDERAL OSHA   NTP   IARC   CAL/OSHA (SEE BELOW)

NOTE: CALIFORNIA EMPLOYERS USING CAL/OSHA-REGULATED CARCINOGENS  
MUST REGISTER WITH CAL/OSHA.

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SECTION XI - SHIPPING INFORMATION  
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D.O.T. SHIPPING NAME : NOT REGULATED BY D.O.T. 49CFR  
TECHNICAL SHIPPING NAME : N/A  
D.O.T. HAZARD CLASSIFICATION : NONE  
UN/NA NUMBER : NONE  
D.O.T. LABELS REQUIRED : NONE  
FLASH POINT : ABOVE 212 DEG.F. (TCC)  
H.M.I.S. RATINGS: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0

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SECTION XII - E. P. A. INFORMATION  
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VOC CONTENT: (AS SUPPLIED) GRAMS/LITER LBS/GAL  
EXCLUDING EXEMPT SOLVENTS 200 1.67  
INCLUDING EXEMPT SOLVENTS 96 .80  
WATER PER VOLUME 50-55% 1,1,1-TRICHLOROETHANE PER VOLUME 0 %  
MIXING INSTRUCTIONS Reduce to spray with water if necessary.

VOC CONTENT: (REDUCED PER ABOVE) GRAMS/LITER LBS/GAL  
EXCLUDING EXEMPT SOLVENTS 200 1.67  
INCLUDING EXEMPT SOLVENTS 96 .80  
WATER PER VOLUME 50-55% 1,1,1-TRICHLOROETHANE PER VOLUME 0 %  
COMMENTS \_\_\_\_\_

THE INFORMATION CONTAINED HEREIN IS BASED UPON TECHNICAL DATA  
CONSIDERED TO BE TRUE AND ACCURATE. HOWEVER, CARDINAL INDUSTRIAL  
FINISHES MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, AS TO THE  
ACCURACY OR ADEQUACY OF THIS INFORMATION. THIS DATA IS OFFERED  
SOLEY FOR THE USER'S CONSIDERATION, INVESTIGATION AND VERIFICATION.

FORM PREPARED BY Richard A. Stewart

REGULATORY TECHNICIAN

RS:maf

STOCK NUMBER:

2404

DATE:

4/2/90

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IDENTIFICATION

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PRODUCT: 1,1,1 TRICHLOROETHANE/RECONSTITUTED GRADE  
CHEMICAL FAMILY: CHLORINATED HYDROCARBON SOLVENT  
FORMULA: CH<sub>3</sub>CCl<sub>3</sub>

U.S. DOT SHIPPING NAME: 1,1,1 TRICHLOROETHANE RQ-(1000/454)  
U.S. DOT HAZARD CLASS: ORM-A  
U.S. DOT I.D. NUMBER: UN2831

HAZARDOUS WASTE IDENTIFICATION:

U.S. EPA WASTE NUMBER: F001  
CALIFORNIA: 211  
SOUTH COAST AQMD:

VOLATILE ORGANIC COMPOUND: 72 GRAMS/LITER

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PHYSICAL DATA

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BOILING POINT @ 760 MM HG: 68-80 C  
VAPOR DENSITY (AIR = 1): 4.54  
SPECIFIC GRAVITY (H<sub>2</sub>O = 1) @ 25/25 C: 1.300-1.320  
PH OF SOLUTIONS: 6.0-7.5  
FREEZING/MELTING POINT: -45 C  
SOLUBILITY (WEIGHT % IN WATER): NEGLIGIBLE  
BULK DENSITY @ 25 C: 10.8-10.97 #/GAL  
VOLUME % VOLATILE: 100  
VAPOR PRESSURE @ 25 C: 135 MM HG  
EVAPORATION RATE (ETHYL ETHER = 1): 0.35  
HEAT OF SOLUTION: N/A  
APPEARANCE: CLEAR, COLORLESS  
LIQUID  
ODOR: ETHER-LIKE

2404

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COMPOSITION DATA

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COMPONENT	CAS NUMBER	PERCENT
1,1,1 TRICHLOROETHANE	71-55-6	> 95
1,2, BUTYLENE OXIDE	106-88-7	< 1
DIETHYLENE ETHER (1,4 DIOXANE)	123-91-1	2
NITROMETHANE	75-52-5	< 2

\*SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT OF 1986 WARNING:  
THIS BLEND MAY CONTAIN 1,2-DICHLOROETHANE AND DIETHYLENE  
ETHER, LISTED AS "PROPOSITION 65" CHEMICALS KNOWN TO THE  
STATE OF CALIFORNIA TO CAUSE CANCER.

THE DETECTION LIMITS FOR THESE CHEMICALS ARE VARIABLE, AND  
DEPEND UPON THE DETECTION INSTRUMENT'S SPECIFICITY, SENSITIVITY,  
ANALYTICAL METHOD UTILIZED, AND VARIOUS OTHER PARAMETERS.

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FIRE/EXPLOSION HAZARD DATA

---

FLASH POINT (METHOD USED): NONE

FLAMMABLE LIMITS IN AIR (% BY VOLUME):

LEL 7%

UEL 15%

EXTINGUISHING MEDIA:

WATER, DRY CHEMICALS OR CARBON DIOXIDE

SPECIAL FIRE FIGHTING PROCEDURES:

FIRE FIGHTERS SHOULD WEAR NIOSH/MSHA APPROVED, PRESSURE DEMAND,  
SELF-CONTAINED BREATHING APPARATUS FOR POSSIBLE EXPOSURE TO  
HYDROGEN CHLORIDE AND POSSIBLE TRACES OF PHOSGENE.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS CONCENTRATED IN A CONFINED OR POORLY VENTILATED AREA CAN  
BE IGNITED UPON CONTACT WITH A HIGH ENERGY SPARK, FLAME, OR HIGH  
INTENSITY SOURCE OF HEAT. THIS CAN OCCUR AT CONCENTRATIONS RANGING  
BETWEEN 7-15% BY VOLUME. DECOMPOSITION OR BURNING WILL PRODUCE  
HYDROGEN CHLORIDE AND POSSIBLE TRACES OF PHOSGENE.

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HEALTH HAZARD DATA

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TOXICITY DATA:

LC50 INHALATION: RAT: 14,250 PPM/7 HOURS

LD50 DERMAL: RABBIT: > 15 G/KG

SKIN/EYE IRRITATION: SEE EFFECTS OF OVEREXPOSURE

LD50 INGESTION: RAT: 10-12 G/KG

FISH, LC50

(LETHAL CONCENTRATION) UNKNOWN



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CLASSIFICATION (POISON, IRRITANT, ETC.)

INHALATION:	SLIGHTLY TOXIC
SKIN:	NOT SIGNIFICANTLY TOXIC
SKIN/EYE:	IRRITATING
INGESTION:	NOT SIGNIFICANTLY TOXIC
AQUATIC:	UNKNOWN

-----  
EFFECTS OF OVEREXPOSURE  
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THIS SECTION COVERS EFFECTS OF OVEREXPOSURE FOR INHALATION, EYE/SKIN CONTACT, INGESTION AND OTHER TYPES OF OVEREXPOSURE INFORMATION IN THE ORDER OF THE MOST HAZARDOUS AND THE MOST LIKELY ROUTE OF OVEREXPOSURE.

IS CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?

NTP:	NO
IARC:	NO
OSHA:	NO

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:  
NONE KNOWN

PERMISSABLE EXPOSURE LIMITS:

OSHA:	350 PPM, 8-HOUR TWA (TIME-WEIGHTED AVERAGE)
	450 PPM, 15-MINUTE STEL (SHORT-TERM EXPOSURE LIMIT)
	29 CFR 1910.1000, REV. 3/1/89

ACUTE:

INHALATION: PRIMARILY A CENTRAL NERVOUS SYSTEM DEPRESSANT. INHALATION CAN CAUSE IRRITATION OF THE RESPIRATORY SYSTEM, DIZZINESS, NAUSEA, LIGHTEADEDNESS, HEADACHE, LOSS OF COORDINATION AND EQUILIBRIUM, UNCONSCIOUSNESS, POSSIBLE CENTRAL NERVOUS SYSTEM DAMAGE AND EVEN DEATH IN CONFINED OR POORLY VENTILATED AREAS. FATALITIES FOLLOWING SEVERE ACUTE EXPOSURE TO VARIOUS CHLORINATED SOLVENTS HAVE BEEN ATTRIBUTED TO VENTRIBULAR FIBRILLATION.

EYE/SKIN: LIQUID SPLASHED IN THE EYE CAN RESULT IN DISCOMFORT, PAIN AND IRRITATION. PROLONGED OR REPEATED CONTACT WITH LIQUID ON THE SKIN CAN CAUSE IRRITATION AND DERMATITIS. THE PROBLEM MAY BE ACCENTUATED BY LIQUID BECOMING TRAPPED AGAINST THE SKIN BY CONTAMINATED CLOTHING AND SHOES, AND SKIN ABSORPTION CAN OCCUR.

INGESTION: SWALLOWING OF THIS MATERIAL MAY RESULT IN IRRITATION OF THE MOUTH AND GI TRACT WITH OTHER EFFECTS AS LISTED ABOVE FOR INHALATION. VOMITING AND SUBSEQUENT ASPIRATION INTO THE LUNGS MAY LEAD TO CHEMICAL PNEUMONIA AND PULMONARY EDEMA WHICH IS A POTENTIALLY FATAL CONDITION. LD50 INGESTION: (RABBIT, GUINEA PIG) 5.6-9.5 G/KG.

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CHRONIC:

EXTENSIVELY STUDIED FOR CANCER POTENTIAL. THERE IS NO DOCUMENTED EVIDENCE TO SUGGEST THAT THIS PRODUCT CAUSES AN INCREASED CANCER INCIDENCE IN HUMANS OR ANIMALS. THE EPA'S SCIENCE ADVISORY BOARD CONCLUDED THAT THERE IS NO EVIDENCE TO SUGGEST CARCINOGENIC ACTIVITY.

REPRODUCTIVE:

IN DEVELOPMENTAL TOXICITY STUDIES, THERE WAS NO EVIDENCE FOR BIRTH DEFECTS IN RATS OR RABBITS AFTER INHALATION EXPOSURE TO PREGNANT ANIMALS. NO ADVERSE FINDINGS RELATIVE TO REPRODUCTIVE OR DEVELOPMENTAL TOXICITY WERE OBSERVED FOLLOWING DAILY SIX-HOUR EXPOSURES AT OR BELOW 3000 PPM IN RATS OR RABBITS.

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EMERGENCY AND FIRST AID PROCEDURES

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INHALATION:

REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.

EYE OR SKIN CONTACT:

FLUSH EYES AND SKIN WITH PLENTY OF WATER (SOAP AND WATER FOR SKIN) FOR AT LEAST 15 MINUTES, WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION OCCURS, CONSULT A PHYSICIAN. THOROUGHLY CLEAN CONTAMINATED CLOTHING AND SHOES BEFORE REUSE, OR DISCARD.

INGESTION:

IF CONSCIOUS, DRINK LARGE QUANTITIES OF WATER. DO NOT INDUCE VOMITING. TAKE IMMEDIATELY TO A HOSPITAL OR PHYSICIAN. IF UNCONSCIOUS, OR IN CONVULSIONS, TAKE IMMEDIATELY TO A HOSPITAL. DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTES TO PHYSICIAN (INCLUDING ANTIDOTES):

NEVER ADMINISTER ADRENALINE FOLLOWING OVEREXPOSURE. INCREASED SENSITIVITY OF THE HEART TO ADRENALINE MAY BE CAUSED BY OVEREXPOSURE.

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REACTIVITY DATA

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STABILITY:

CONDITIONS TO AVOID:

STABLE

OPEN FLAMES, HOT GLOWING SURFACES,  
OR ELECTRIC ARCS

HAZARDOUS POLYMERIZATION:

CONDITIONS TO AVOID:

WILL NOT OCCUR

NONE

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INCOMPATIBILITY (MATERIALS  
TO AVOID):

AVOID MIXING WITH CAUSTIC SODA,  
CAUSTIC POTASH, OR OXIDIZING  
MATERIALS.  
SHOCK SENSITIVE COMPOUNDS MAY BE  
FORMED.

HAZARDOUS DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE AND POSSIBLE  
TRACES OF PHOSGENE

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SPILL OR LEAK PROCEDURES

---

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:

IMMEDIATELY EVACUATE THE AREA AND PROVIDE MAXIMUM VENTILATION.  
UNPROTECTED PERSONNEL SHOULD MOVE UPWIND OF SPILL. ONLY  
PERSONNEL EQUIPPED WITH PROPER RESPIRATORY AND SKIN/EYE PROTECTION  
SHOULD BE PERMITTED IN THE AREA. DIKE AREA TO CONTAIN SPILL. TAKE  
PRECAUTIONS AS NECESSARY TO PREVENT CONTAMINATION OF GROUND AND  
SURFACE WATERS. RECOVER SPILLED MATERIAL ON ADSORBENTS, SUCH AS  
SAWDUST AND VERMICULATE, AND SWEEP INTO CLOSED CONTAINERS FOR DISPOSAL.  
AFTER ALL VISIBLE TRACES, INCLUDING IGNITABLE VAPORS, HAVE BEEN  
REMOVED, THOROUGHLY WET VACUUM THE AREA. DO NOT FLUSH TO SEWER.  
IF AREA OF SPILL IS POROUS, REMOVE AS MUCH CONTAMINATED EARTH AND  
GRAVEL, ETC. AS NECESSARY AND PLACE IN CLOSED CONTAINERS FOR  
DISPOSAL.

WASTE DISPOSAL METHOD:

CONTAMINATED SAWDUST, VERMICULITE, OR POROUS SURFACES MUST BE  
DISPOSED OF IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY.  
RECOVERED LIQUIDS MAY BE REPROCESSED OR INCINERATED OR MUST BE TREATED  
IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY. CARE MUST BE  
TAKEN WHEN USING OR DISPOSING OF CHEMICAL MATERIALS AND/OR THEIR  
CONTAINERS TO PREVENT ENVIRONMENTAL CONTAMINATION. IT IS YOUR  
DUTY TO DISPOSE OF THE CHEMICAL MATERIALS AND/OR THEIR CONTAINERS  
IN ACCORDANCE WITH THE CLEAN AIR ACT, THE CLEAN WATER ACT, THE  
RESOURCE CONSERVATION AND RECOVERY ACT, AS WELL AS ANY OTHER  
RELEVANT FEDERAL, STATE OR LOCAL LAWS/REGULATIONS REGARDING  
DISPOSAL.

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SPECIAL PROTECTION INFORMATION

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RESPIRATORY PROTECTION:

USE A HALF OR FULL FACEPIECE ORGANIC VAPOR CHEMICAL CARTRIDGE OR CANISTER RESPIRATOR WHEN CONCENTRATIONS EXCEED PERMISSIBLE LIMITS. USE SELF-CONTAINED BREATHING APPARATUS (SCBA) OR FULL FACEPIECE AIRLINE RESPIRATOR WITH AUXILIARY SCBA OPERATED IN THE PRESSURE-DEMAND MODE FOR EMERGENCIES AND FOR ALL WORK PERFORMED IN STORAGE VESSELS, POORLY VENTILATED ROOMS, AND OTHER CONFINED AREAS. RESPIRATORS MUST BE APPROVED BY NIOSH OR MSHA. THE RESPIRATOR USE LIMITATIONS MADE BY NIOSH/MSHA AND BY THE MANUFACTURER MUST BE OBSERVED. RESPIRATORY PROTECTION PROGRAMS MUST BE IN ACCORDANCE WITH 29 CFR 1910.134.

VENTILATION (TYPE):

USE LOCAL EXHAUST OR DILUTION VENTILATION AS APPROPRIATE TO CONTROL EXPOSURES TO BELOW PERMISSIBLE LIMITS.

EYE PROTECTION:

SPLASHPROOF GOGGLES

GLOVES:

VITRON(R), SILVERSHIELD (R), FOR LIMITED SERVICE ONLY; POLYVINYL ALCOHOL (DEGRADES IN WATER)

OTHER PROTECTIVE EQUIPMENT:

BOOTS, APRONS OR CHEMICAL SUITS SHOULD BE USED WHEN NECESSARY TO PREVENT SKIN CONTACT. PERSONAL PROTECTIVE CLOTHING AND USE OF EQUIPMENT MUST BE IN ACCORDANCE WITH 29 CFR 1910.132 AND 29 CFR 1910.133.

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SPECIAL PRECAUTIONS

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PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING:

- \* DO NOT USE IN POORLY VENTILATED OR CONFINED AREAS WITHOUT PROPER RESPIRATORY PROTECTION (SEE SPECIAL PROTECTION INFORMATION)
- \* VAPORS ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS
- \* KEEP CONTAINER CLOSED WHEN NOT IN USE
- \* STORE ONLY IN CLOSED, PROPERLY LABELED CONTAINERS
- \* LIQUID OXYGEN OR OTHER STRONG OXIDANTS MAY FORM EXPLOSIVE MIXTURES
- \* THIS MATERIAL OR ITS VAPORS WHEN IN CONTACT WITH FLAMES, HOT GLOWING SURFACES, OR ELECTRIC ARCS CAN DECOMPOSE TO FORM HYDROGEN CHLORIDE AND POSSIBLE TRACES OF PHOSGENE
- \* AVOID CONTAMINATION OF WATER SUPPLIES. HANDLING, STORAGE AND USE PROCEDURES MUST BE CAREFULLY MONITORED TO AVOID SPILLS OR LEAKS. ANY SPILL OR LEAK HAS THE POTENTIAL TO CAUSE UNDERGROUND WATER CONTAMINATION WHICH MAY, IF SUFFICIENTLY SEVERE, RENDER A DRINKING WATER SOURCE UNFIT FOR HUMAN CONSUMPTION. CONTAMINATION THAT DOES OCCUR CANNOT BE EASILY CORRECTED.
- \* DO NOT STORE OR STACK ALUMINUM IN CONTACT WITH THIS PRODUCT TO PREVENT POSSIBLE SOLVENT DECOMPOSITION (STACKING CORROSION)

2404

- \* CAUTION SHOULD BE TAKEN NOT TO USE IN PRESSURIZED OR TOTALLY ENCLOSED SYSTEM OF ALUMINUM CONSTRUCTION (EXAMPLE: PAINT OR ADHESIVE SPRAY SYSTEM).
- \* A CHLORINATED SOLVENT USED AS A FLASHPOINT SUPPRESSANT MUST BE ADDED IN SUFFICIENT QUANTITY OR THE RESULTANT MIXTURE MAY HAVE A FLASHPOINT LOWER THAN THE FLAMMABLE COMPONENT.
- \* DO NOT USE CUTTING OR WELDING TORCHES ON EMPTY DRUMS THAT CONTAINED THIS PRODUCT UNLESS PROPERLY PURGED AND CLEANED.

OTHER PRECAUTIONS:

- \* DO NOT BREATHE VAPORS. HIGH VAPOR CONCENTRATIONS CAN CAUSE DIZZINESS, UNCONSCIOUSNESS OR DEATH. LONG-TERM OVEREXPOSURE MAY CAUSE POSSIBLE CENTRAL NERVOUS SYSTEM DAMAGE.
- \* USE ONLY WITH ADEQUATE VENTILATION. VENTILATION MUST BE SUFFICIENT TO LIMIT EMPLOYEE EXPOSURE TO BELOW PERMISSIBLE EXPOSURE LIMITS. OBSERVANCE OF LOWER LIMITS (OUTLINED IN "EFFECTS OF OVEREXPOSURE") IS ADVISABLE. EYE IRRITATION, DIZZINESS AND/OR DRUNKENNESS ARE SIGNS OF OVEREXPOSURE.
- \* AVOID CONTACT WITH EYES. WILL CAUSE IRRITATION AND PAIN.
- \* AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. MAY CAUSE IRRITATION OR DERMATITIS.
- \* DO NOT SWALLOW. SWALLOWING MAY CAUSE INJURY OR DEATH.
- \* DO NOT EAT, DRINK OR SMOKE IN WORK AREA.

COMMENTS:

TSCA: 1,1,1-TRICHLOROETHANE IS ON THE TSCA INVENTORY UNDER CAS #71-55-6. PRODUCT FORMULATIONS CONTAIN STABILIZERS LISTED ON THE TSCA INVENTORY.

SARA TITLE III - A) 311/312 CATEGORIES - ACUTE  
B) LISTED IN SECTION 313 AS 1,1,1-TRICHLOROETHANE (METHYLCHLOROFORM), ALSO CONTAINS TERTIARY BUTYL ALCOHOL WHICH IS LISTED IN SECTION 313  
C) NOT LISTED AS AN "EXTREMELY HAZARDOUS SUBSTANCE" IN SECTION 302.

CERCLA: LISTED IN TABLE 302.4 OF 40 CFR PART 302 AS A HAZARDOUS SUBSTANCE WITH A REPORTABLE QUANTITY OF 1000 POUNDS. RELEASES TO AIR, LAND, OR WATER WHICH EXCEED THE RQ MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER, 800-424-8802.

RCRA: WASTE 1,1,1-TRICHLOROETHANE AND CONTAMINATED SOILS/MATERIALS FROM SPILL CLEANUP ARE U226 HAZARDOUS WASTE AS PER 40 CFR 261.33 AND MUST BE DIPOSED OF ACCORDINGLY UNDER RCRA. SEE FOR CFR 261.33(C) AND 261.7(B)(3) FOR CLEANING REQUIREMENTS FOR EMPTY CONTAINERS.

CALIFORNIA PROP. 65: THIS PRODUCT CONTAINS ETHYLENE DICHLORIDE, A PROCESS IMPURITY OF LESS THAN 0.1%. PROP. 65 LISTS THIS COMPOUND AS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Class 1B.

110gal

MATERIAL SAFETY DATA SHEET

RHO-CHEM CORP.  
425 ISIS AVE.  
INGLEWOOD, CA 90301  
(213) 776-6233

METHYL ETHYL KETONE  
EFFECTIVE 8-12-86  
PAGE 1

METHYL ETHYL KETONE

SECTION 1

IDENTIFICATION

PRODUCT: METHYL ETHYL KETONE  
CHEMICAL FAMILY: KETONE  
SYNONYM: 2-BUTANONE  
STOCK NUMBERS:

TECHNICAL GRADE: 1804  
ELECTRONIC/SEMI GRADE: 1964

RECONSTITUTED GRADE: 1854  
A.C.S. REAGENT GRADE: 3964

DEPARTMENT OF TRANSPORTATION (DOT) IDENTIFICATION:

REPORTABLE QUANTITY (RQ): 5000 POUNDS (2270 KILOGRAMS) PER  
49 CFR 172.101 LIST OF HAZARDOUS  
SUBSTANCES AND REPORTABLE QUANTITIES  
OF 07/01/87.

DOT PROPER SHIPPING NAME: METHYL ETHYL KETONE  
DOT HAZARD CLASS: FLAMMABLE LIQUID  
DOT IDENTIFICATION NUMBER: UN1193

HAZARDOUS WASTE IDENTIFICATION:  
U.S. EPA WASTE NUMBER: F005

CALIFORNIA: 212

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT:

VOLATILE ORGANIC COMPOUND (VOC) = 805 grams/Liter

SECTION 2

PRODUCT/COMPOSITION DATA

COMPONENT #	COMPONENT	CAS NUMBER	PERCENT
1	[REDACTED]	78-93-3	100

ACT OF 1986

INFORMATION:

9-14-90 SAT

6:41

1 213 645 6379

P.02

METHYL ETHYL KETONE  
PAGE 2

## SECTION 3

## PHYSICAL DATA

BOILING POINT OR RANGE (DEG. F)	SPECIFIC GRAVITY (25/25C)	SOLUBILITY IN WATER @25C (WT %)	
175	0.81	27.1	
VAPOR PRESSURE (mm Hg)	VAPOR DENSITY IN AIR (AIR=1)	% VOLATILE BY VOLUME	EVAPORATION RATE N-BUTYL ACETATE = 1
70 @ 68F	2.5	100	3.8
APPEARANCE: CLEAR COLORLESS LIQUID			
ODOR: PUNGENT			

## SECTION 4A

## HEALTH INFORMATION-HEALTH RATING

## HAZARDOUS MATERIALS IDENTIFICATION SYSTEMS (HMIS)

HEALTH (3)

~~HEALTH (3)~~

REACTIVITY (0)

PERSONAL PROTECTION (C) SAFETY GLASSES  
GLOVES / APRON

## SECTION 4B

## HEALTH INFORMATION-ACUTE TOXICITY DATA

COMPONENT #	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
1	RAT 3.4 G/KG	RABBIT 8 ML/KG	RAT 8000 PPM/8HR

## SECTION 4C

## HEALTH INFORMATION-OCCUPATIONAL EXPOSURE LIMITS

COMPONENT	PEL/TWA	(OSHA) PEL CEILING	TLV/TWA	(ACGIH) TLV/TWA
1	200 PPM	----	200 PPM	---

METHYL ETHYL KETONE  
PAGE 3-----  
SECTION 4D HEALTH INFORMATION - EFFECTS OF EXPOSURE  
-----

EFFECTS DESCRIBED IN THIS SECTION ARE BELIEVED NOT TO OCCUR IF EXPOSURES TO THE PRODUCT ARE MAINTAINED AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C. PREEXISTING SKIN, EYE, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

## POTENTIAL ROUTE OF ENTRY

INHALATION   X  SKIN       INGESTION       

## INHALATION:

VAPORS MAY BE IRRITATING TO NOSE, THROAT AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

## SKIN:

LIQUID IS IRRITATING TO THE SKIN. PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN TO BECOME REDDENED, ROUGH, AND DRY DUE TO THE REMOVAL OF NATURAL OILS, AND MAY RESULT IN DERMATITIS.

EYES: LIQUID IS MODERATELY IRRITATING TO THE EYES.

HIGH VAPOR CONCENTRATION MAY ALSO CAUSE IRRITATION.

INGESTION: LIQUID IS TOXIC AND MAY BE HARMFUL IF SWALLOWED. MAY PRODUCE CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

## SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE:

INTENTIONAL ABUSE, MISUSE, OR OTHER MASSIVE EXPOSURE MAY RESULT IN DIFFICULT BREATHING, NAUSEA, VOMITING AND HEADACHE. COMA AND OR DEATH ARE POSSIBLE.

CENTRAL NERVOUS SYSTEM DEPRESSION RANGES FROM LIGHT HEADEDNESS TO UNCONSCIOUSNESS AND DEATH. CNS DEPRESSION IS EVIDENCED BY GIDDINESS, DIZZINESS AND NAUSEA.

-----  
SECTION 4E SUPPLEMENTAL HEALTH INFORMATION  
-----

IS THE PRODUCT OR A COMPONENT OF THE PRODUCT LISTED AS A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM (NTP), INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) OR IS IT THE SUBJECT OF A HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE (HESIS) HAZARD ALERT?

COMPONENT NUMBER	NTP CARCINOGEN	OSHA CARCINOGEN	IARC CARCINOGEN	HESIS HAZARD ALERT
1	NO	NO	NO	NO



METHYL ETHYL KETONE  
PAGE 4

-----  
COMPONENT INFORMATION  
-----

METHYL ETHYL KETONE:

IN FEMALE RATS EXPOSED BY INHALATION TO OVER 1000 PPM (5X'S THE OSHA-  
PEL/TWA) MINOR EMBRYOTOXIC/FETOTOXIC EFFECTS WERE OBSERVED.

METHYL ETHYL KETONE HAS BEEN DEMONSTRATED TO POTENTIATE (I.E. SHORTEN  
THE TIME OF ONSET) THE PERIPHERAL NEUROPATHY CAUSED BY EITHER N-HEXANE  
OR METHYL N-BUTYL KETONE. MEK BY ITSELF HAS NOT BEEN DEMONSTRATED TO  
CAUSE PERIPHERAL NEUROPATHY.

-----  
SECTION 5

EMPLOYEE PROTECTION  
-----

VENTILATION:

MAINTAIN WORKPLACE VAPOR CONCENTRATIONS AT OR BELOW THE OCCUPATIONAL  
EXPOSURE LIMITS LISTED IN SECTION 4C.

PROTECTIVE MEASURES FOR MAINTENANCE:

EXERCISE REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. STORE  
IN A COOL PLACE. CONCENTRATED VAPORS OF THIS PRODUCT ARE HEAVIER THAN  
AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE  
TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS  
OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS  
USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE. DO NOT PRESSURE PRODUCT  
OUT OF VESSEL OR TRANSPORT CONTAINER WITH AIR.

RESPIRATORY PROTECTION:

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR  
DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SECTION 4C) USE A NIOSH-  
APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR  
1910.134 USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR  
AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

SKIN PROTECTION:

FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERING  
CLOTHING SHOULD BE NEEDED. WHEN PROLONGED OR FREQUENTLY REPEATED  
CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS  
MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR  
FULL-BODY SUIT WILL DEPEND ON OPERATION.

EYE PROTECTION:

USE SAFETY GLASSES. WHERE CONTACT WITH LIQUID IS LIKELY, CHEMICAL  
GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT WITH THIS MATERIAL MAY  
CAUSE PAIN, EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY. CONTACT  
LENSES SHOULD NOT BE WORN.

HYGIENE:

AVOID CONTACT WITH SKIN AND AVOID BREATHING VAPORS. DO NOT EAT, DRINK  
OR SMOKE IN WORK AREA. WASH HANDS PRIOR TO EATING, DRINKING, OR USING  
RESTROOM.

## METHYL ETHYL KETONE

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## SECTION 6

## EMERGENCY AND FIRST AID

## EYE CONTACT:

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

## SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED.

## INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

## INGESTION:

INDUCE VOMITING. DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC. IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION. SEE NOTE TO PHYSICIAN, BELOW.

## NOTE TO PHYSICIAN:

IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

## SECTION 7

## FIRE AND EXPLOSION HAZARDS

FLASH POINT: 23 F. (TCC)

FLAMMABLE LIMITS: VOLUME IN AIR UPPER LIMITS: 11.5%  
LOWER LIMITS: 1.8%

## EXTINGUISHING MEDIA:

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.

## SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:

WARNING. FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS) INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

METHYL ETHYL KETONE  
PAGE 6

## UNUSUAL FIRE AND EXPLOSION HAZARDS:

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

## SECTION 8

## REACTIVITY

STABILITY: THIS PRODUCT IS STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

## CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE OR CALCIUM HYPOCHLORITE.

## HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

## SECTION 9

## SPILL AND DISPOSAL PRACTICES

## SPILL:

EVACUATE THE AREA, VENTILATE, AND AVOID BREATHING VAPORS. DIKE AREA TO CONTAIN SPILL. CLEAN UP AREA (WEAR PROTECTIVE EQUIPMENT) BY MOPPING OR WITH ABSORBENT MATERIAL AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. AVOID CONTAMINATION OF GROUND AND SURFACE WATERS. DO NOT FLUSH TO SEWER.

## WASTE DISPOSAL:

RECOVERED LIQUIDS MAY BE SENT TO A LICENSED RECLAIMER OR INCINERATION FACILITY. CONTAMINATED MATERIAL MUST BE DISPOSED OF IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY. CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED PROCEDURES.

METHYL ETHYL KETONE  
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## SECTION 10

## SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHT, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE: FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED. CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS.

STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

## HANDLING AND STORAGE:

HANDLE WITH REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE.

STORE DRUMS IN A COOL PLACE, BUNG UP AND TIGHTLY CLOSED. STORAGE TANKS SHOULD BE ADEQUATELY VENTED FOR FILLING AND PRESSURE EQUALIZATION. VENTS FROM INDOOR TANKS SHOULD TERMINATE OUTDOORS.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE. SINCE THE ACTUAL USE OF THIS PRODUCT BY OTHERS IS BEYOND THE CONTROL OF RHO-CHEM CORPORATION, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THIS PRODUCT.

4-18-91

BUTYL CELLULOSE

4x5gal max.

## MATERIAL SAFETY DATA SHEET

—CHEM CORP.  
425 ISIS AVE.  
INGLEWOOD, CA 90301  
(213) 776-6233

RHO SOLV EB  
EFFECTIVE 8-12-86  
PAGE 1

RHO SOLV EB  
ETHYLENE GLYCOL MONOBUTYL ETHER

## SECTION 1

## IDENTIFICATION

PRODUCT: RHO SOLV EB  
CHEMICAL FAMILY: GLYCOL ETHER  
SYNONYM: 2-BUTOXYETHANOL  
STOCK NUMBERS:

TECHNICAL GRADE: 1601  
ELECTRONIC/SEMI GRADE: N/A

RECONSTITUTED GRADE: N/A  
A.C.S. REAGENT GRADE: 3968

## DEPARTMENT OF TRANSPORTATION (DOT) IDENTIFICATION

DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, NOS  
DOT HAZARD CLASS: FLAMMABLE LIQUID  
DOT IDENTIFICATION NUMBER: UN-2369

## HAZARDOUS WASTE IDENTIFICATION

WASTE NUMBER: US EPA D001 CALIFORNIA: 212

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT:  
THIS CHEMICAL IS NOT PHOTOCHEMICALLY REACTIVE

## SECTION 2

## PRODUCT/COMPOSITION DATA

COMPONENT #	COMPONENT	CAS NUMBER	PERCENT
1	ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	100

## SECTION 3

## PHYSICAL DATA

BOILING POINT  
OR RANGE  
(DEG. F)

340

SPECIFIC  
GRAVITY  
(25/25C)

0.90

SOLUBILITY IN  
WATER @25C  
(WT %)

COMPLETE

VAPOR PRESSURE (mm Hg)	VAPOR DENSITY IN AIR (AIR=1)	% VOLATILE BY VOLUME	EVAPORATION RATE n-BUTYL ACETATE = 1
------------------------------	---------------------------------	-------------------------	---

0.6 @ 68F	4.1	100	0.18
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APPEARANCE: CLEAR COLORLESS LIQUID

ODOR:

## SECTION 4A

## HEALTH INFORMATION-HEALTH RATING

HAZARDOUS MATERIALS IDENTIFICATION SYSTEMS (HMIS)

HEALTH (3)

FIRE (2)

REACTIVITY (0)

PERSONAL PROTECTION (C) SAFETY GLASSES  
GLOVES / APRON

## SECTION 4B

## HEALTH INFORMATION-ACUTE TOXICITY DATA

COMPONENT #	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
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1	RAT 0.5-3.0 G/KG	RABBIT 0.4 G/KG	RAT 450 PPM/4HR
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## SECTION 4C

## HEALTH INFORMATION-OCCUPATIONAL EXPOSURE LIMITS

COMPONENT	(OSHA)		(ACGIH)	
	PEL/TWA	PEL CEILING	TLV/TWA	TLV/STEL
1	25 PPM		25 PPM	75 PPM

## SECTION 4D

## HEALTH INFORMATION - EFFECTS OF EXPOSURE

EFFECTS DESCRIBED IN THIS SECTION ARE BELIEVED NOT TO OCCUR IF EXPOSURES TO THE PRODUCT ARE MAINTAINED AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C. PREEXISTING SKIN, EYE, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

POTENTIAL ROUTE OF ENTRY:

INHALATION XSKIN ---INGESTION ---

**INHALATION:**

VAPORS MAY BE IRRITATING TO NOSE, THROAT AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

PRODUCT IS ACUTELY TOXIC IF INHALED.

**SKIN:**

LIQUID IS IRRITATING TO THE SKIN. PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN TO BECOME REDDENED, ROUGH, AND DRY DUE TO THE REMOVAL OF NATURAL OILS, AND MAY RESULT IN DERMATITIS.

PRODUCT IS TOXIC IF ABSORBED THROUGH THE SKIN.

**EYES:**

LIQUID IS SEVERELY IRRITATING TO THE EYES.

LIQUID CAUSES TEMPORARY PAINFUL BURNING SENSATION, TEARING, GENERAL INFLAMMATION, AND BLURRED VISION.

**INGESTION:**

LIQUID IS TOXIC AND MAY BE HARMFUL IF SWALLOWED.

SWALLOWING PRODUCT MAY RESULT IN GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

**SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE:**

INTENTIONAL ABUSE, MISUSE OR OTHER MASSIVE EXPOSURE MAY RESULT IN DIFFICULT BREATHING, NAUSEA, VOMITING AND HEADACHE. COMA AND DEATH ARE POSSIBLE.

-----  
**SECTION 4E**

**SUPPLEMENTAL HEALTH INFORMATION**  
-----

IS THE PRODUCT OR A COMPONENT OF THE PRODUCT LISTED AS A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM (NTP), INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) OR IS IT THE SUBJECT OF A HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE (HESIS) HAZARD ALERT?

COMPONENT NUMBER	NTP CARCINOGEN	OSHA CARCINOGEN	IARC CARCINOGEN	HESIS HAZARD ALERT
1	NO	NO	NO	NO

---

COMPONENT INFORMATION

---

ETHYLENE GLYCOL MONOBUTYL ETHER (2-BE)

EXPOSURE OF RATS BY INHALATION TO 2-BE CAUSED HEMOLYSIS, HEMOGLOBINURIA (BLOOD IN THE URINE) AND A SLIGHT INCREASE IN LIVER WEIGHT. OTHER SPECIES, INCLUDING MAN, WERE LESS SENSITIVE OR MORE RESISTANT TO HEMOLYSIS. THE HEMOLYTIC EFFECT IN RATS WAS TRANSITORY AND/OR REVERSIBLE AND NOT CONSIDERED TO BE RELEVANT TO HUMAN HEALTH. INAHULATION EXPOSURE OF PREGNANT RABBITS CAUSED SOME LETHALITY AND DAMAGE TO THE FETUS AT 200 PPM. BUT THERE WERE NO EFFECTS AT 100 PPM AND BELOW. INHALATION EXPOSURE TO PREGNANT RATS CAUSED IRRITANCY TO THE DAMS AND RELATED FEOTOXICITY AT 200 AND 100 PPM, BUT THERE WERE NO EFFECTS AT 50 PPM AND BELOW. 2-BE DID NOT CAUSE BIRTH DEFECTS IN EITHER STUDY.

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SECTION 5

EMPLOYEE PROTECTION

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VENTILATION:

MAINTAIN WORKPLACE VAPOR CONCENTRATIONS AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C.

PROTECTIVE MEASURES FOR MAINTENANCE:

EXERCISE REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. STORE IN A COOL PLACE. CONCENTRATED VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS FITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE. DO NOT PRESSURE PRODUCT OUT OF VESSEL OR TRANSPORT CONTAINER WITH AIR.

RESPIRATORY PROTECTION:

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SECTION 4C) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.



**SKIN PROTECTION:**

FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERING CLOTHING SHOULD BE NEEDED. WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION.

**EYE PROTECTION:**

USE SAFETY GLASSES. WHERE CONTACT WITH LIQUID IS LIKELY, CHEMICAL GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT WITH THIS MATERIAL MAY CAUSE PAIN, EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY. CONTACT LENSES SHOULD NOT BE WORN.

**HYGIENE:**

AVOID CONTACT WITH SKIN AND AVOID BREATHING VAPORS. DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH HANDS PRIOR TO EATING, DRINKING, OR USING RESTROOM.

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**SECTION 6**

**EMERGENCY AND FIRST AID**

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**EYE CONTACT:**

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

**SKIN CONTACT:**

REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED.

**INHALATION:**

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

INDUCE VOMITING:

DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC. IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION. SEE NOTE TO PHYSICIAN, BELOW.

NOTE TO PHYSICIAN:

IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

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SECTION 7

FIRE AND EXPLOSION HAZARDS

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FLASH POINT: 138 F (TCC)

FLAMMABLE LIMITS: VOLUME IN AIR UPPER LIMITS: 12.7% @ 275F  
LOWER LIMITS: 1.1% @ 200F

EXTINGUISHING MEDIA:

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:

CAUTION. COMBUSTIBLE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD. BUNKER COATS. GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

---

## SECTION 8

## REACTIVITY

---

STABILITY: THIS PRODUCT IS STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE OR CALCIUM HYPOCHLORITE.

AVOID CONTACT WITH STRONG ALKALIES SUCH AS SODIUM HYDROXIDE AND CONTACT WITH STRONG MINERAL ACIDS SUCH AS SULFURIC, HYDROCHLORIC AND NITRIC ACIDS.

AVOID CONTACT WITH ALUMINUM SURFACES. IF THE ALUMINUM OXIDE SURFACE FILM IS REMOVED, RELEASE OF HYDROGEN GAS CAN RESULT.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

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## SECTION 9

## SPILL AND DISPOSAL PRACTICES

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SPILL:

EVACUATE THE AREA, VENTILATE, AND AVOID BREATHING VAPORS. DIKE AREA TO CONTAIN SPILL. CLEAN UP AREA (WEAR PROTECTIVE EQUIPMENT) BY MOPPING OR WITH ABSORBENT MATERIAL AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. AVOID CONTAMINATION OF GROUND AND SURFACE WATERS. DO NOT FLUSH TO SEWER.

**WASTE DISPOSAL:**

RECOVERED LIQUIDS MAY BE SENT TO A LICENSED RECLAIMER OR INCINERATION FACILITY. CONTAMINATED MATERIAL MUST BE DISPOSED OF IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY. CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED PROCEDURES.

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**SECTION 10**

**SPECIAL PRECAUTIONS**

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KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHT, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE: FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED. CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS.

STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

**HANDLING AND STORAGE:**

HANDLE WITH REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS FITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE.

STORE DRUMS IN A COOL PLACE, BUNG UP AND TIGHTLY CLOSED. STORAGE TANKS SHOULD BE ADEQUATELY VENTED FOR FILLING AND PRESSURE EQUALIZATION. VENTS FROM INDOOR TANKS SHOULD TERMINATE OUTDOORS.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

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THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE. SINCE THE ACTUAL USE OF THIS PRODUCT BY OTHERS IS BEYOND THE CONTROL OF RHO-CHEM CORPORATION, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THIS PRODUCT.

MATERIAL SAFETY DATA SHEET

RHO-CHEM CORP.  
425 ISIS AVE.  
INGLEWOOD, CA 90301  
(213)776-6233

ACETONE  
EFFECTIVE 5/25/88  
PAGE 1

ACETONE

SECTION 1

IDENTIFICATION

PRODUCT: ACETONE  
CHEMICAL FAMILY: KETONE  
SYNONYM: 2-PROPANONE  
STOCK NUMBERS:

TECHNICAL GRADE: 1801  
ELECTRONIC/SEMI GRADE: 1961

RECONSTITUTED GRADE: 1851  
A.C.S. REAGENT GRADE: 3961

DEPARTMENT OF TRANSPORTATION (DOT) IDENTIFICATION:

REPORTABLE QUANTITY (RQ): 5000 POUNDS (2270 KILOGRAMS) PER  
49 CFR 172.101 LIST OF HAZARDOUS  
SUBSTANCES AND REPORTABLE QUANTITIES  
OF 07/01/87.

DOT PROPER SHIPPING NAME: ACETONE  
DOT HAZARD CLASS: FLAMMABLE LIQUID  
DOT IDENTIFICATION NUMBER: UN1090

HAZARDOUS WASTE IDENTIFICATION:

U.S. EPA WASTE NUMBER: F003 or D001

CALIFORNIA: 212

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT:  
THIS CHEMICAL IS NOT PHOTOCHEMICALLY REACTIVE  
VOLATILE ORGANIC COMPOUND (VOC) = 800 grams/Liter

SECTION 2

PRODUCT/COMPOSITION DATA

COMPONENT #	COMPONENT	CAS NUMBER	PERCENT
1	ACETONE	67-64-1	100

\*SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT OF 1986  
("PROPOSITION 65") WARNING:

DETECTABLE AMOUNTS OF BENZENE ARE PRESENT IN COMPONENT #1.  
THIS CHEMICAL IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE  
CANCER. THE CONCENTRATION LEVEL IS APPROXIMATELY 5.0 PARTS  
PER MILLION, AND MAY BE 30.0 PARTS PER MILLION AT MAXIMUM  
LEVELS. THE DETECTION LIMIT FOR THIS CHEMICAL IS VARIABLE,  
AND DEPENDS UPON THE DETECTION INSTRUMENT'S SPECIFICITY,  
SENSITIVITY, THE ANALYTICAL METHOD UTILIZED, AND VARIOUS  
OTHER PARAMETERS.

ACETONE  
PAGE 2

SECTION 3

PHYSICAL DATA

BOILING POINT OR RANGE (DEG. F)	SPECIFIC GRAVITY (25/25C)	SOLUBILITY IN WATER @25C (WT %)
133	0.80	COMPLETE

VAPOR PRESSURE (mm Hg)	VAPOR DENSITY IN AIR (AIR=1)	% VOLATILE BY VOLUME	EVAPORATION RATE n-BUTYL ACETATE = 1
186 @ 60F	2.0	100	5.6

APPEARANCE: CLEAR COLORLESS LIQUID  
ODOR: MILD ODOR

SECTION 4A

HEALTH INFORMATION-HEALTH RATING

HAZARDOUS MATERIALS IDENTIFICATION SYSTEMS (HMIS)

HEALTH (3)

FIRE (4)

REACTIVITY (0)

PERSONAL PROTECTION (C) SAFETY GLASSES  
GLOVES / APRON

SECTION 4B

HEALTH INFORMATION-ACUTE TOXICITY DATA

COMPONENT #	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
1	RAT 9.75 G/KG	RABBIT 20.0 G/KG	RAT 16000 PPM/4HR

SECTION 4C

HEALTH INFORMATION-OCCUPATIONAL EXPOSURE LIMITS

COMPONENT	(OSHA) PEL/TWA	PEL CEILING	(ACGIH) TLV/TWA	TLV/STEL
1	750 PPM	3000 PPM	750 PPM	1000 PPM

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SECTION 4D HEALTH INFORMATION - EFFECTS OF EXPOSURE  
-----

EFFECTS DESCRIBED IN THIS SECTION ARE BELIEVED NOT TO OCCUR IF EXPOSURES TO THE PRODUCT ARE MAINTAINED AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C. PREEEXISTING SKIN, EYE, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

POTENTIAL ROUTE OF ENTRY

INHALATION   X  

SKIN       

INGESTION       

INHALATION:

VAPORS MAY BE IRRITATING TO NOSE, THROAT, AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

SKIN:

LIQUID IS IRRITATING TO THE SKIN. PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN TO BECOME REDDENED, ROUGH, AND DRY DUE TO THE REMOVAL OF NATURAL OILS, AND MAY RESULT IN DERMATITIS.

EYES:

LIQUID IS SEVERELY IRRITATING TO THE EYES. HIGH VAPOR CONCENTRATION MAY ALSO CAUSE IRRITATION.

INGESTION:

MAY PRODUCE CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE:

INTENTIONAL ABUSE, MISUSE, OR OTHER MASSIVE EXPOSURE MAY RESULT IN DIFFICULT BREATHING, NAUSEA, VOMITING AND HEADACHE. COMA AND OR DEATH ARE POSSIBLE.

CENTRAL NERVOUS SYSTEM DEPRESSION RANGES FROM LIGHT HEADEDNESS TO UNCONSCIOUSNESS AND DEATH. CNS DEPRESSION IS EVIDENCED BY GIDDINESS, DIZZINESS AND NAUSEA.

ACETONE  
PAGE 4

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SECTION 4E SUPPLEMENTAL HEALTH INFORMATION  
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IS THE PRODUCT OR A COMPONENT OF THE PRODUCT LISTED AS A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM (NTP), INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), OR IS IT THE SUBJECT OF A HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE (HESIS) HAZARD ALERT?

COMPONENT NUMBER	NTP CARCINOGEN	OSHA CARCINOGEN	IARC CARCINOGEN	HESIS HAZARD ALERT
1	NO	NO	NO	NO

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COMPONENT INFORMATION  
-----

ACETONE:  
NO SUPPLEMENTAL HEALTH INFORMATION HAS BEEN IDENTIFIED.

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SECTION 5 EMPLOYEE PROTECTION  
-----

VENTILATION:

MAINTAIN WORKPLACE VAPOR CONCENTRATIONS AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C.

PROTECTIVE MEASURES FOR MAINTENANCE:

EXERCISE REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. STORE IN A COOL PLACE. CONCENTRATED VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE. DO NOT PRESSURE PRODUCT OUT OF VESSEL OR TRANSPORT CONTAINER WITH AIR.

RESPIRATORY PROTECTION:

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SECTION 4C) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

SKIN PROTECTION:

FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERING CLOTHING SHOULD BE NEEDED. WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION.



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EYE PROTECTION:

WHERE CONTACT WITH LIQUID IS LIKELY, CHEMICAL GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT WITH THIS MATERIAL MAY CAUSE PAIN, EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY. CONTACT LENSES SHOULD NOT BE WORN.

## HYGIENE:

AVOID CONTACT WITH SKIN AND AVOID BREATHING VAPORS. DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH HANDS PRIOR TO EATING, DRINKING, OR USING RESTROOM.

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SECTION 6EMERGENCY AND FIRST AID

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## EYE CONTACT:

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

## SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED.

## INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION: INDUCE VOMITING. DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC. IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION. SEE NOTE TO PHYSICIAN, BELOW.

## NOTE TO PHYSICIAN:

IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

ACETONE  
PAGE 6

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SECTION 7 FIRE AND EXPLOSION HAZARDS  
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FLASH POINT: -15 F (TCC)

FLAMMABLE LIMITS: VOLUME IN AIR UPPER LIMITS: 12.8%  
LOWER LIMITS: 2.6%

EXTINGUISHING MEDIA:

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:

DANGER. EXTREMELY FLAMMABLE. CLEAR FIRE AREAS OF UNPROTECTED PERSONNEL AND ISOLATE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS) INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

-----  
SECTION 8 REACTIVITY  
-----

STABILITY: THIS PRODUCT IS STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE OR CALCIUM HYPOCHLORITE.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

---

SECTION 9

SPILL AND DISPOSAL PRACTICES

---

SPILL:

EVACUATE THE AREA, VENTILATE, AND AVOID BREATHING VAPORS. DIKE AREA TO CONTAIN SPILL. CLEAN UP AREA (WEAR PROTECTIVE EQUIPMENT) BY MOPPING OR WITH ABSORBENT MATERIAL AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. AVOID CONTAMINATION OF GROUND AND SURFACE WATERS. DO NOT FLUSH TO SEWER.

WASTE DISPOSAL:

RECOVERED LIQUIDS MAY BE SENT TO A LICENSED RECLAIMER OR INCINERATION FACILITY. CONTAMINATED MATERIAL MUST BE DISPOSED OF IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY. CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED PROCEDURES.

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SECTION 10

SPECIAL PRECAUTIONS

---

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHT, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE: FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED. CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS. STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

HANDLING AND STORAGE:

HANDLE WITH REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE.

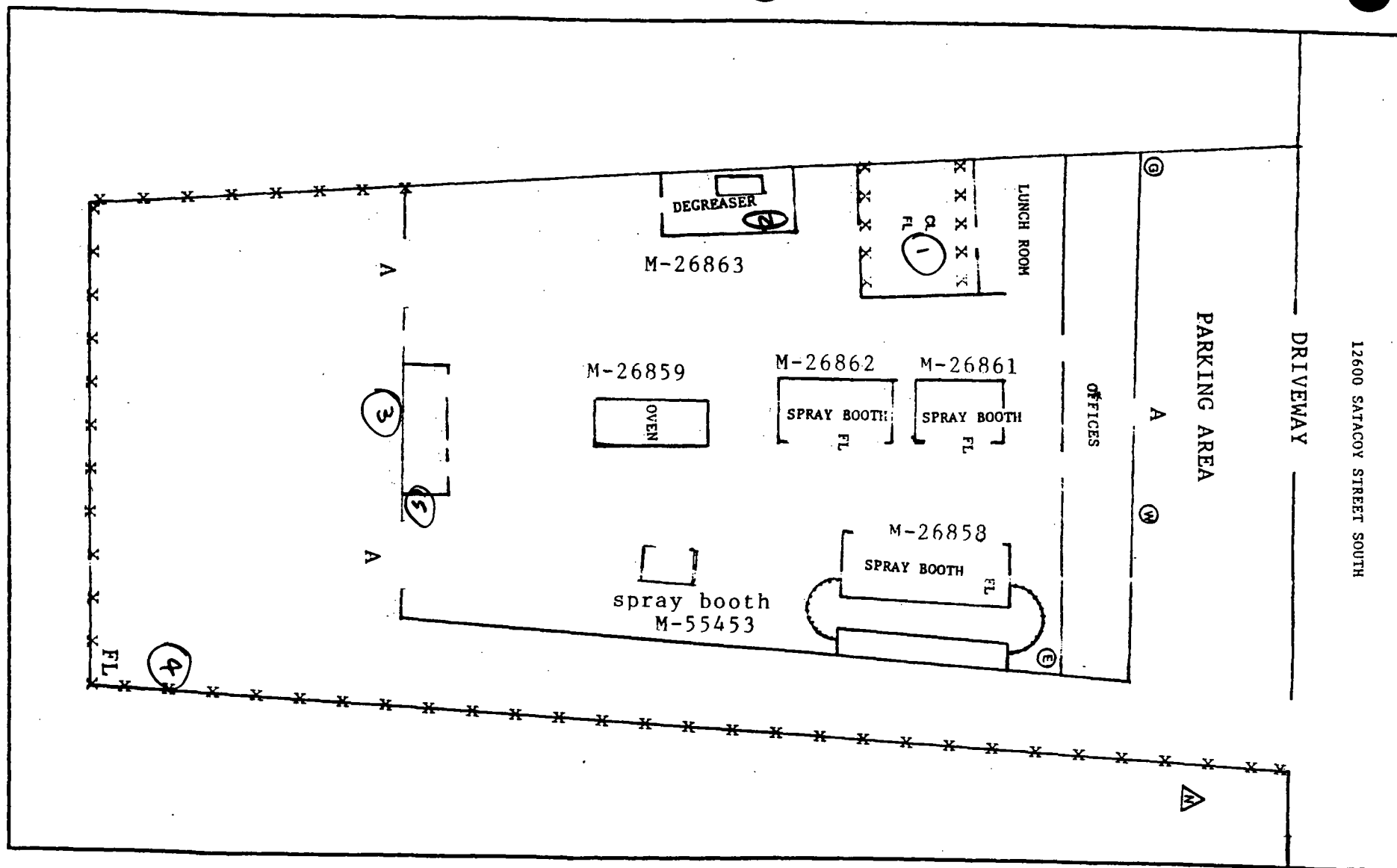
STORE DRUMS IN A COOL PLACE, BUNG UP AND TIGHTLY CLOSED. STORAGE TANKS SHOULD BE ADEQUATELY VENTED FOR FILLING AND PRESSURE EQUALIZATION. VENTS FROM INDOOR TANKS SHOULD TERMINATE OUTDOORS.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

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THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE. SINCE THE ACTUAL USE OF THIS PRODUCT BY OTHERS IS BEYOND THE CONTROL OF RHO-CHEM CORPORATION, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THIS PRODUCT.

**EXHIBIT I**



Business Name: CLYDE LEE INC.

Business Address (Site Address): 12600 SATACOY STREET SOUTH

Facility Unit: BUILDING

Main Business Activity: SPRAY PAINTING METAL PARTS.

Scale of Map: 1 in = 25 ft Date: 2-8-88

(KEY TO SYMBOLS AND ABBREVIATIONS ON THE FRONT OF THIS FORM)

025010



# FACILITY

Please print or type. (Form designed for use on elite (12-pitch typewriter).)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. CA D 0 3 0 3 8 3 6 2 4 6 4 4 3 2		Manifest Document No. 01217		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address <b>SEMATCO INC.</b> <b>12660 SATCOTT ST. SO. - NORTH HOLLYWOOD, CA 91605</b>						4. Generator's Phone (616) 982-6660			
5. Transporter 1 Company Name <b>AND-CHEN CORPORATION</b>			6. US EPA ID Number CA D 0 0 8 3 0 4 4 3 2			7. Transporter 2 Company Name			
8. Designated Facility Name and Site Address <b>AND-CHEN CORPORATION</b> <b>425 1518 AVE.</b> <b>IRVINE, CA 92614</b>			9. US EPA ID Number CA D 0 0 8 3 0 4 4 3 2			10. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			
a. <b>WASTE 1,1,1, TRICHLOROETHANE, ONE-A, (P-001)</b>						12. Containers No. Type		13. Total Quantity	
b. <b>WASTE 1,1,1, TRICHLOROETHANE, ONE-A, (P-001)</b>						10 3 B M D 0 1 5 0		G	
c. <b>WASTE 1,1,1, TRICHLOROETHANE, ONE-A, (P-001)</b>						10 3 B M D 0 1 5 0		G	
d. <b>WASTE 1,1,1, TRICHLOROETHANE, ONE-A, (P-001)</b>						10 3 B M D 0 1 5 0		G	
14. Special Handling Instructions and Additional Information						15. Handling Charges for Wastes Listed Above			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.						17. Transporter 1 Acknowledgment of Receipt of Materials			
18. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.						19. Discrepancy Indication Space			

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA CALL 1-800-852-7550

Do Not Write Below This Line

Yellow. TSDf SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS



Please print or type. Form designed for use on site (12-pitch typewriter).

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address <b>SPRINKLE 12600 SATILCOY ST No HOLLYWOOD CA</b>		1. Generator's US EPA ID No. <b>CA0030383674</b>		A. State Manifest Document Number <b>91065062</b>	
4. Generator's Phone (916) <b>982-6800</b>		5. Generator's Company Name <b>Petroleum Recycling Corp</b>		B. State Generator's ID <b>91065062</b>	
6. Transporter 1 Company Name		7. US EPA ID Number		C. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		D. State Transporter's ID	
9. Designated Facility Name and Site Address <b>PRC 1035 E 29TH ST Signal Hill CA 90806</b>		10. US EPA ID Number <b>CA1080011059</b>		E. State Facility's ID <b>910593-7431</b>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	15. Other Info
a. <b>WASTE FLAMMABLE LIQUID, NOS</b>		<b>001</b>	<b>TT 00250</b>	<b>G</b>	
b. <b>UNPA3</b>					
c. <b>IDENTICAL TO ABOVE, WASTE FLAMMABLE LIQUID, NOS</b>					
d. <b>PETROLEUM RECYCLING CORPORATION</b>					
16. Special Handling Instructions and Additional Information <b>Gloves &amp; Goggles</b>					
17. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>WILLIAM R. THOMAS</b>		Signature <i>[Signature]</i>		Month Day Year <b>11/21/92</b>	
12. Transporter 1 Acknowledgment of Receipt of Materials		Signature <i>[Signature]</i>		Month Day Year <b>11/21/92</b>	
13. Transporter 2 Acknowledgment of Receipt of Materials		Signature		Month Day Year	
14. Discrepancy Indication Space <b>ALTERNATE FUEL</b>					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.					
Printed/Typed Name <b>LARRY BAUER</b>		Signature <i>[Signature]</i>		Month Day Year <b>11/21/92</b>	

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-6622. IN CALIFORNIA, CALL 1-800-952-7650

025012

Form Approved 10-20-2007 (EPA Form 354-011)  
Please print or type. Form designed for use on 12 inch typewriter.

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>CA0030383634</b>		Manifest Document No.		2. Page 1 1 of 1		Information in the shaded areas is not required by Federal law.						
3. Generator's Name and Mailing Address <b>12000 SATISFY ST No Hollywood CA</b>						A. State Manifest Document No. <b>11085062</b>								
4. Generator's Phone (213) <b>982-6840</b> <b>CA 91605</b>						B. State Generator's ID								
5. Transporter 1 Company Name <b>Petroleum Recycling Corp</b>						C. State Transporter's ID <b>(213) 593-7431</b>								
6. US EPA ID Number <b>CA009816916420</b>						D. State Transporter's ID								
7. Transporter 2 Company Name						E. State Transporter's ID								
8. US EPA ID Number						F. State Transporter's ID								
9. Designated Facility Name and Site Address <b>PRC 1835 G 29TH ST Signal Hill CA 90806</b>						10. US EPA ID Number <b>CA101091011059</b>								
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) <b>Waste Flammable Liquid, n.o.s. UN1993</b>						12. Containers No. <b>001</b> Type <b>TT</b>		13. Total Quantity <b>00250</b>		14. Unit G				
a. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
b. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
c. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
d. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
e. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
f. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
g. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
h. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
i. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
j. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
k. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
l. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
m. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
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p. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
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r. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
s. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
t. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
u. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
v. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
w. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
x. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
y. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
z. Identification of the waste described above, including proper shipping name, hazard class, and ID number, as provided on the shipping label.														
15. Special Handling Instructions and Additional Information <b>Gloves &amp; Goggles</b>														
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.														
Printed/Typed Name <b>Paul Perkins</b>					Signature <i>Paul Perkins</i>					Month Day Year <b>11/21/80</b>				
17. Transporter 1 Acknowledgment of Receipt of Materials														
Printed/Typed Name <b>PAUL PERKINS</b>					Signature <i>Paul Perkins</i>					Month Day Year <b>11/21/80</b>				
18. Transporter 2 Acknowledgment of Receipt of Materials														
Printed/Typed Name					Signature					Month Day Year				
19. Discrepancy Indication Space <b>ALTERNATE FUEL</b>														
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.														
Printed/Typed Name <b>Lester Banks</b>					Signature <i>Lester Banks</i>					Month Day Year <b>11/21/80</b>				

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA CALL 1-800-852-7650

# W A R N I N G

IMPORTANT NOTICE  
DO NOT DETACH

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**EXHIBIT M**

ARTICLES OF INCORPORATIONOFCLYDE LEE, INC.

RECORDED  
JUL 8 1979  
BILL HOU...

FIRST: The name of the corporation shall be  
Clyde Lee, Inc.

SECOND: The purpose of the corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of California, other than the banking business, the trust company business, or the practice of a profession permitted to be incorporated by the California Corporations Code.

THIRD: The name of the corporation's initial agent for service of process within the State of California, in accordance with provisions of Subdivision (b) of Section 1502 of the General Corporation Law of the State of California, is Brian J. Tannenbaum, 9952 Santa Monica Boulevard, Beverly Hills, California, 90212.

FOURTH: The total number of shares which the corporation is authorized to issue is 10,000 all of which are of one class and are common shares.

FIFTH: The Board of Directors of the corporation may issue any or all of the aforesaid authorized shares of the corporation from time to time for such consideration, as it shall determine, and may determine from time to time the amount of such consideration, if any, to be credited to paid in surplus.

SIXTH: In the interim between the meeting of shareholders held for the election of directors, or for the removal of one or more directors, and the election of the replacements thereof, any vacancy which results by reason of the removal of a director, or directors, by the shareholders entitled to vote in an election of directors and which has not been filled by said shareholders may be filled by a majority of the directors then in office, whether or not less than a quorum, or by the sole remaining director, as the case may be.

SEVENTH: Each share of the corporation which is entitled to unlimited dividend rights and to unlimited voting rights shall entitle the holder thereof, for a period of thirty (30) days, to subscribe for or purchase authorized shares of the same class or options or securities having conversion or option rights to any such class which are to be issued or to subscribe for or purchase authorized shares of any other class conferring unlimited dividend rights and unlimited dividend rights or options or securities having conversion or option rights to any such class which are to be issued; provided, however, that whenever the corporation shall be authorized to issue two or more classes or series of shares, one or more of which confers upon the shares thereof of a greater proportion of voting power for each share or the right to vote for directors by class vote, then, and in that event, the holders of said shares class or series shall be entitled to the same preemptive rights as aforesaid.

Executed this 29 day of June,  
1979.



The undersigned does hereby declare and acknowledge that he is the person who executed the foregoing Articles of Incorporation as the incorporator of the corporation named therein and does hereby further declare and acknowledge that his execution of said Articles of Incorporation is his act and deed as said incorporator.

Executed this 29 day of June,  
1979.



CERTIFICATE OF ADOPTION OF BY-LAWS

ADOPTION BY INCORPORATOR(S) OR FIRST DIRECTOR(S).

The undersigned person(s) appointed in the Articles of Incorporation to act as the Incorporator(s) or First Director(s) of the above-named corporation hereby adopt the same as the By-Laws of said corporation.

Executed this 11 day of September, 19 79.

\_\_\_\_\_  
Name

THIS IS TO CERTIFY:

That I am the duly-elected, qualified and acting Secretary of the above-named corporation; that the foregoing By-Laws were adopted as the By-Laws of said corporation on the date set forth above by the person(s) appointed in the Articles of Incorporation to act as the Incorporator(s) or First Director(s) of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal this 11 day of September, 19 79

\_\_\_\_\_  
Secretary

(SEAL)

CERTIFICATE BY SECRETARY OF ADOPTION BY SHAREHOLDERS' VOTE.

THIS IS TO CERTIFY:

That I am the duly-elected, qualified and acting Secretary of the above-named corporation and that the above and foregoing Code of By-Laws was submitted to the shareholders at their first meeting held on the date set forth in the By-Laws and recorded in the minutes thereof, was ratified by the vote of shareholders entitled to exercise the majority of the voting power of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand this 11  
day of August September, 19 79.

\_\_\_\_\_  
Secretary